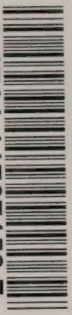


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CONSTRUCTION OCCUPATIONS

MAJOR GROUP 87

Canadian
Classification and
Dictionary of
Occupations

1977



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Immigration Canada

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CONSTRUCTION OCCUPATIONS

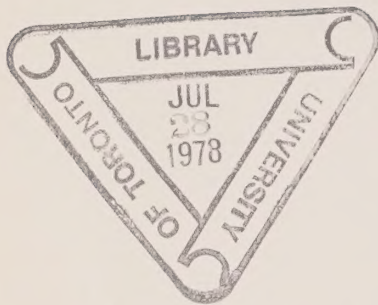
MAJOR GROUP
87

35 Canadian
Classification and
Dictionary of
Occupations



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ERRATUM

Please note that the following changes are to be made:

1. CONSTRUCTION LABOURER (construction) 8798-110

is to be changed to

CONSTRUCTION LABOURER (construction) 8798-114

This change is to be made in the occupational description, in the Index to the Major Group 87 Book, and in the Index to the CCDO Guide.

2. HOMEMAKER (pers. serv., n.e.c.) 6149-132

is to be changed to

HOMEMAKER (medical) 3139-142

This change is to be made in the Index to the CCDO Guide.

3. Please add the following on the Publication Order Form:

CCDO major group 87 construction occupations
(Cat. no. MP53-1/87-1978): \$4.95 per copy Canada
\$6.00 other countries

ERRATUM

Prière de noter les changements suivants:

1. MANOEUVRE D'ENTREPRISE DE CONSTRUCTION (const.) 8798-110

doit être changé à

MANOEUVRE D'ENTREPRISE DE CONSTRUCTION (const.) 8798-114

Ce changement doit être effectué dans la description de la profession, dans l'Index du volume du grand groupe 87, et dans l'Index du Guide de la CCDP.

2. AIDE FAMILIALE (serv. pers., n.c.a.) 6149-132

doit être changé à

AIDE FAMILIALE (santé) 3139-142

Ce changement doit être effectué dans l'Index du Guide de la CCDP.

3. Indiquer sur le Bulletin de commande les détails suivants:

CCDP grand groupe 87 travailleurs du bâtiment
(No. de cat. MP53-1/87-1978(F)): \$4.95 la copie Canada
\$6.00 autres pays

IMPORTANT NOTICE

It is essential that this book always be used in conjunction with the CCDO GUIDE.* Only in the GUIDE will the key to the entire CCDO system be found. The GUIDE explains in detail all characteristics pertinent to the classification structure, and the treatment of special groups, titles and definitions. Worker traits such as aptitudes, interests and temperaments are explained as also are a worker's relationship to Data, People and Things functions. An extensive alphabetical index of both job and occupational titles is included as well as an index of industry designations and their descriptions.

*CCDO GUIDE. Published annually and available from the Printing and Publishing Centre, Department of Supply and Services, Ottawa, Ontario, K1A 0S9, or their agents across Canada.

INTRODUCTION

The Canadian Classification and Dictionary of Occupations (CCDO) was initially published in 1971 by the Department of Manpower and Immigration in consultation with Statistics Canada. The CCDO is a taxonomic structure which classifies and defines occupational activity in the Canadian world of work.

The world of work, however, is not a static force, and the degree of change since the publication of CCDO has resulted in the commencement of a progressive revision of the CCDO. By spring 1977, related groups of occupations will begin to appear in separate book form, rather than forming a part of a single, large volume. In addition to the above books, an annual publication, called the CCDO GUIDE, will include the CCDO introduction and an alphabetical listing of both CCDO and job titles.

This present book which classifies and defines only those occupations connected with the Construction Industry, is the

first in a series of about 10 such books. This change in format reflects a certain degree of economy and convenience, and further revisions have been made to ensure the continuing accuracy of the CCDO.

Studies have been carried out across Canada to identify and define occupations which have emerged since the CCDO was first published. Existing occupational definitions have been revised and updated, and some occupations have been deleted because they no longer exist. CCDO titles previously considered to be sex discriminatory have been deleted or amended to remove any possible bias. The inclusion in the index of other job titles found to exist in Canada does not infer any official recognition of them by CCDO. The concept of expressing the requirements of an occupation in terms of aptitudes, interests and temperaments has been borrowed from the 1971 edition of CCDO Volume 2. These factors form part of a complete Qualification Profile, and their inclusion with the occupational descriptions greatly extends the usefulness of each book of occupations.

SPECIAL NOTICE

In determining the data for inclusion in this publication, many jobs were examined and analyzed to determine their contents. No facts were collected, however, on such matters as hours of labour, wages or salaries, or other related employment practices.

As the content of specific jobs vary with each individual establishment, most of the occupational definitions are described in broad terms. For these reasons, the data in this publication cannot be considered as standards for setting working conditions, pay scales or related employment conditions, and the Department of Manpower and Immigration has no responsibility for the setting of these or other jurisdictional matters.

THE CCDO STRUCTURE BY MAJOR GROUP

together with a detailed breakdown of Major Group 87

11	Managerial, Administrative and Related Occupations
21	Occupations in Natural Sciences, Engineering and Mathematics
23	Occupations in Social Sciences and Related Fields
25	Occupations in Religion
27	Teaching and Related Occupations
31	Occupations in Medicine and Health
33	Artistic, Literary, Performing Arts and Related Occupations
37	Occupations in Sport and Recreation
41	Clerical and Related Occupations
51	Sales Occupations
61	Service Occupations
71	Farming, Horticultural and Animal-Husbandry Occupations
73	Fishing, Hunting, Trapping and Related Occupations
75	Forestry and Logging Occupations
77	Mining and Quarrying Including Oil and Gas Field Occupations
81/82	Processing Occupations
83	Machining and Related Occupations
85	Product Fabricating, Assembling and Repairing Occupations
* 87	Construction Trades Occupations
91	Transport Equipment Operating Occupations
93	Material-Handling and Related Occupations, n.e.c.
95	Other Crafts and Equipment Operating Occupations
99	Occupations Not Elsewhere Classified

MAJOR, MINOR AND UNIT GROUP TITLES

* CONSTRUCTION TRADES OCCUPATIONS

MAJOR GROUP 87

871 EXCAVATING, GRADING, PAVING AND RELATED OCCUPATIONS

- 8710 Foremen/women, Excavating, Grading, Paving and Related Occupations
- 8711 Excavating, Grading and Related Occupations
- 8713 Paving, Surfacing and Related Occupations
- 8715 Railway Section and Track Workers
- 8718 Occupations in Labouring and Other Elemental Work: Excavating, Grading, and Paving
- 8719 Excavating, Grading, Paving and Related Occupations, n.e.c.

873 ELECTRICAL POWER, LIGHTING AND WIRE COMMUNICATIONS EQUIPMENT ERECTING, INSTALLING AND REPAIRING OCCUPATIONS

- 8730 Foremen/women, Electrical Power, Lighting and Wire Communications Equipment Erecting, Installing and Repairing Occupations
- 8731 Electrical Power Line Workers and Related Occupations
- 8733 Construction Electricians and Repair Workers
- 8735 Wire Communications and Related Equipment Installing and Repairing Occupations
- 8736 Inspecting and Testing Occupations: Electrical Power, Lighting and Wire Communications Equipment Erecting, Installing and Repairing
- 8738 Occupations in Labouring and Other Elemental Work: Electrical Power, Lighting and Wire Communications Equipment Erecting, Installing and Repairing
- 8739 Electrical Power, Lighting and Wire Communications Equipment Erecting, Installing and Repairing Occupations, n.e.c.

878/879 OTHER CONSTRUCTION TRADES OCCUPATIONS

- 8780 Foremen/women, Other Construction Trades Occupations
- 8781 Carpenters and Related Occupations
- 8782 Brick and Stone Masons and Tile Setters
- 8783 Concrete Finishing and Related Occupations
- 8784 Plasterers and Related Occupations
- 8785 Painters, Paperhangers and Related Occupations
- 8786 Insulating Occupations, Construction
- 8787 Roofing, Waterproofing and Related Occupations
- 8791 Pipefitting, Plumbing and Related Occupations, n.e.c.
- 8793 Structural-Metal Erectors
- 8795 Glaziers
- 8796 Inspecting and Testing Occupations, Construction, Except Electrical
- 8798 Occupations in Labouring and Other Elemental Work, Other Construction Trades
- 8799 Other Construction Trades Occupations, n.e.c.

CONSTRUCTION TRADES OCCUPATIONS

This major group includes occupations concerned with constructing, renovating and maintaining buildings and other works such as bridges, highways, railways, airports, electrical power and communication lines, towers, waterways and utility services. These occupations are classified in the following minor groups:

- 871 Excavating, Grading, Paving and
 Related Occupations
- 873 Electrical Power, Lighting and Wire
 Communications Equipment Erecting,
 Installing and Repairing Occupations
- 878/879 Other Construction Trades Occupations

871 – EXCAVATING, GRADING, PAVING AND RELATED OCCUPATIONS

This minor group includes occupations concerned with operating heavy earth-moving equipment in removal and placement of earth materials and grading earth surfaces; laying concrete and other paving materials for highways, airports and similar construction; constructing building surface and sub-surface drainage systems and laying railway tracks. These occupations are classified in the following groups:

- 8710 Foremen/women: Excavating, Grading, Paving and
 Related Occupations
- 8711 Excavating, Grading and Related Occupations
- 8713 Paving, Surfacing and Related Occupations
- 8715 Railway Section and Track Workers
- 8718 Occupations in Labouring and Other Elemental Work:
 Excavating, Grading and Paving
- 8719 Excavating, Grading, Paving and Related
 Occupations, n.e.c.

8710-FOREMEN/WOMEN, EXCAVATING, GRADING, PAVING AND RELATED OCCUPATIONS

This unit group includes occupations as described under the master title, 01-250 SUPERVISOR; FOREMAN/WOMAN (any ind.), concerned with supervising and coordinating activities of workers engaged in operating heavy equipment to excavate or grade earth, mix and lay paving materials, construct drainage systems and lay railway tracks.

8710-110 FOREMAN/WOMAN, EXCAVATING, GRADING AND RELATED OCCUPATIONS (construction)

Supervises and coordinates activities of workers engaged in removing earth materials from excavations, grading earth surfaces and dredging irrigation ditches, canals and marine channels, (Unit Group 8711).

DPT: 1 3 8

8710-114 FOREMAN/WOMAN, PAVING, SURFACING AND RELATED OCCUPATIONS (construction)

Supervises and coordinates activities of workers engaged in laying concrete to form road-beds or other sub-surface structures and applying surfacing materials such as asphalt, gravel or concrete to streets, highways, parking lots or airports, (Unit Group 8713).

DPT: 1 3 8

8710-118 FOREMAN/WOMAN, RAILWAY SECTION AND TRACK WORKERS (construction)

Supervises and coordinates activities of workers engaged in laying, aligning, inspecting and repairing tracks and roadbeds of railways, station yards and subways, and street, mine and industrial railways, (Unit Group 8715).

DPT: 1 3 8

8710-199 OTHER FOREMEN/WOMEN, EXCAVATING, GRADING, PAVING AND RELATED OCCUPATIONS

This residual group includes occupations concerned with excavating, grading and paving foremen/women not presently classified in Unit Group 8710.

8711-EXCAVATING, GRADING AND RELATED OCCUPATIONS

This unit group includes occupations concerned with removing earth materials from excavations, grading earth surfaces and dredging irrigation ditches, canals and marine channels. Activities include operating earth-moving equipment to excavate, move, level or load materials and operating air-locks and underground-construction-excavating machines. Rock and soil drilling workers are classified in Unit Group 7713, OTHER ROCK AND SOIL DRILLING OCCUPATIONS and blasting workers are classified in Unit Group 7715, BLASTING OCCUPATIONS.

8711-110 HEAVY-DUTY-EQUIPMENT OPERATOR (any ind.)

Operates a variety of heavy-construction equipment and attachments to excavate, move, load or grade earth and similar materials: Unloads and drives pneumatic-tire or crawler-tread types of equipment to worksite. Moves levers and pedals to control equipment and attachments. Works from profile drawings and reads grade stakes when operating heavy equipment to complete grading, earth moving and land clearing tasks. Operates construction equipment with attachments to excavate, lift and load materials, and drive piles. Selects and changes excavator attachments such as face shovels, drag lines, back hoes, drag shovels, clam shells, crane booms and pile driver heads. Starts up and adjusts compressor-power unit to maintain continuous air supply to pneumatic tools and equipment. Connects pump and hoses and adjusts valves and throttle to change pumping pressure as conditions require. Services equipment by cleaning, lubricating and refueling equipment, and adjusting clutches, brakes, belts and cables, and replacing cutting edges, teeth, sheer pins, blades, cables and bolts.

GED: 3 SVP: 6 PA: M 2 4 7 EC: B 5 6 7 8 DPT: 3 8 3

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8711-111 HEAVY-DUTY-EQUIPMENT-OPERATOR APPRENTICE (any ind.)

Performs duties of 8711-110 HEAVY-DUTY-EQUIPMENT OPERATOR (any ind.) on a progressive basis according to a training schedule.

8711-114 SHIELD OPERATOR (construction)

Controls advance of steel tube with cutting edge used to support overlying ground during tunnel construction: Moves console levers to control hydraulic rams which force shield into earth in specified direction, and hydraulically-operated fins which prevent rotation of shield and help achieve or maintain grade. Moves levers to regulate movement of steel arm attached to shield that lifts metal segments of tunnel heading into position. Directs activities of workers engaged in placing hydraulic jacks, primary-tunnel lining and rib sections.

GED: 3 SVP: 5 PA: M 4 5 7 8 EC: I 4 5 6 DPT: 6 6 3

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8711-118 MOLE OPERATOR (construction)

Operates boring machine to drill horizontal holes through earth banks or under highways, railroads, canals and other obstructions for installation of pipelines: Directs crane operator to lift machine from flat-bed truck and place it in approximate position at work site, using oral and hand signals. Assembles and positions machine, augers and casing pipes, assisted by other worker. Verifies level of boring position, using spirit level. Starts motor and moves levers to rotate and feed auger into earth and activate hydraulic ram which forces casing into hole. Retracts auger to pull earth back through casing and permit coupling additional sections of casing and auger stem. Operates boring machine that drills pilot hole through bank, and then pulls auger back through bank to cut hole of specified diameter.

GED: 3 SVP: 4 PA: H 2 4 5 6 7 8 EC: O 5 DPT: 6 6 3

APT.													INT.		TEMP.	
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8711-122 MUCKING-MACHINE OPERATOR (construction)

Operates mucking machine (scraper-loader) to load earth and rock excavated from tunnel headings into dinkey cars: Starts machine and moves levers and pedals to control movement of machine on track and activate scrapers to scoop up and deposit materials on machine conveyor which dumps material into dinkey cars. Signals other workers to remove filled cars and position empty cars for filling. Cleans, maintains and makes minor repairs to machine, using water hose, oil can, grease gun and hand tools.

GED: 3 SVP: 4 PA: M 4 7 8 EC: I 4 5 6 7 DPT: 6 6 3

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8711-126 BULLDOZER OPERATOR (any ind.)

Operates tractor equipped with concave blade to gouge out, level or move materials such as earth, trees, rock and ore in construction, forestry, mining and other projects:

Connects hydraulic hoses, belts, mechanical linkage or power take-off shaft to tractor, to provide power to raise, lower or tilt attachments. Moves levers and pushes pedals to manoeuvre tractor and raise, lower or tilt blade or attachment to cut, remove and push objects or materials. Estimates depth of cut by feel of lever and stalling action of engine. Drives bulldozer in successive passes to raise or lower terrain according to grade specifications. Installs and operates special attachments such as winch, snowplough blade or loading scoop. Greases, oils and repairs tractor.

GED: 3 SVP: 4 PA: M 2 4 7 8 EC: O 5 6 7 DPT: 6 8 3

APT.													INT.			TEMP.			
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8711-130 DRAGLINE OPERATOR (construction; mining & quarrying)

Operates crane equipped with dragline bucket to excavate or move sand, gravel, clay, mud, coal and other materials:

Receives instructions and reads blueprints to determine work specifications. Drives machine to work site, and directs workers engaged in placing blocks and outriggers to prevent capsizing. Moves levers and pedals to rotate crane and position boom, raise and lower boom, lower bucket to material, drag bucket toward crane to excavate or move material, place bucket over unloading point and tilt bucket to release material. Greases, oils and examines machine for worn parts, using hand tools.

GED: 3 SVP: 4 PA: M 4 5 7 8 EC: B 5 6 7 DPT: 6 6 3

APT.													INT.			TEMP.			
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8711-134 DREDGE OPERATOR (construction; mining & quarrying)

Operates various types of dredges to deepen waterways, reclaim earth fill or mine metal-bearing sands and gravel:

Works from blueprints, maps and verbal instructions and studies current, tide and ship traffic. Starts motor and positions dredge by moving levers and pedals that operate winch to adjust anchor cables and to raise and lower spud (anchor) poles. Moves levers and pedals to control dredging equipment such as dipper, clamshell, endless-bucket chain or suction pipe to excavate and deposit material in barge, scow, pipeline or on shore. Lowers anchor pole to verify depth of excavation, using winch. Changes position of dredge, as required, to complete excavation.

GED: 3 SVP: 4 PA: M 2 4 7 8 EC: B 5 6 7 DPT: 6 6 3

APT.													INT.			TEMP.			
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8711-136 BACK-HOE OPERATOR (construction)

Operates pneumatic-tire or crawler tread back-hoe, fitted with various interchangeable attachments to excavate, load, compact, vibrate, break rock or concrete, drill, level and spread earth, gravel, rock and other materials:

Drives machine to and about work site where required. Examines blueprints or obtains instructions from supervisor to determine location and nature of work. Raises and lowers outriggers and blade or bucket to stabilize machine when operating back-hoe, compactor or drill attachments. Operates controls and pushes and pulls floor-mounted levers to activate attachments. Back-fills excavations with rock and earth using front-end loader bucket to push, scoop-up and dump material. Operates controls to activate pneumatic drill to break up pavement, rock and similar material. Changes attachments as required using hand tools. Services and makes minor adjustments to equipment using hand tools and lubricants.

GED: 3 SVP: 4 PA: M 2 4 7 EC: O 5 6 7 8 DPT: 6 8 3

APT.													INT.			TEMP.			
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8711-138 ELEVATING-SCRAPER OPERATOR (construction)

Operates self-propelled machine to scrape and level earth on construction sites and deposit earth in trucks or to side of machine:

Starts motors and drives machine over area to be scraped or levelled. Moves levers and pedals to raise or lower scraper bowl to control depth of cut and to control speed of elevator and discharge conveyer. Drives machine in successive passes to lower the level according to specifications. Services machine and makes minor repairs, using lubricating equipment and hand tools.

GED: 3 SVP: 4 PA: M 4 7 EC: O 5 6 7 8 DPT: 6 8 3

APT.													INT.			TEMP.			
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8711-146 GRADER OPERATOR (any ind.)

Operates self-propelled machine to level and spread earth, gravel, stone and other materials to grade specifications in construction and maintenance of roads, streets, airports, parking lots and dikes:

Drives grader and manipulates levers to regulate height and angle of grader blade. Makes successive passes over working area and observes reference stakes or hand signals of other worker to level surface to specified grade. Judges depth of blade cut by feel of lever, sound of engine and sight. Removes snow, when required, by passing blade or snowplough attachment over road surface. Excavates ditches by tipping blade on angle and driving grader parallel to ditch. Breaks up old pavement or road beds with scarifier attachment (blade with teeth). Lubricates vehicle and makes minor repairs.

GED: 3 SVP: 4 PA: M 2 4 7 8 EC: B 5 6 7 DPT: 6 8 3

APT.													INT.			TEMP.			
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MAJOR GROUP 87

8711-150 SCRAPER OPERATOR (construction)

Operates self-propelled machine to scrape and haul earth on construction sites such as road beds, ditch banks, water reservoirs and airport runways:

Moves switches, steering wheel, levers and pedals to control speed and direction of scraper. Regulates levers to lower scraper blade to desired depth of cut. Drives equipment forward to scrape surface and collect earth in bucket. Operates controls to raise and close filled bucket and drives scraper to area where earth is to be dumped or spread. Drives scraper in successive passes until desired level is reached according to verbal instructions and surveyor's stakes. Services and makes minor repairs to equipment.

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8711-158 TRENCH-DIGGING-MACHINE OPERATOR (construction)

Operates machine consisting of an endless chain or wheel of buckets mounted on tractor chassis, to dig trenches for sewer, water, drainage, oil and gas pipelines and electric-power cables:

Moves levers and depresses pedals to move and turn tractor, raise and lower bucket chain or wheel, and start and stop conveyor belt which discharges material at side of trench. Guides machine along surveyed trench line. Excavates trench to conform to grade specifications. Oils, greases, and makes adjustments and minor repairs to machine.

GED: 3 SVP: 4 PA: M 4 7 EC: B 5 6 7 8 DPT: 6 8 3

APT.													INT.	TEMP.
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8711-166 AIR-LOCK TENDER (construction)

Tends air lock to permit passage of men and material to and from pressurized working chamber during underground excavation for sewers and tunnels:

Turns valve to equalize pressure in lock with pressure in working chamber when men or materials are entering or leaving chamber. Turns valve to decompress air lock to permit exit from lock to surface. Observes gauges and informs compressor operator of sudden increase or decrease in air pressure or if gauge does not respond to turning of air valves. Signals other workers to move materials through lock. Moves equipment such as narrow gauge railway cars through lock, using dinky engine or winch as required.

GED: 2 SVP: 2 PA: L 2 4 5 6 EC: I 4 5 6 DPT: 6 6 5

APT.													INT.	TEMP.
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8711-170 BATTERBOARD SETTER (construction)

Positions batterboards (horizontal boards) to indicate direction, depth and grade of cut to be made by earth-moving and trenching equipment at construction sites:

Sharpens wooden stakes to support batterboards, using axe. Cuts lumber for cross supports on batterboards, using hand or electric saw. Hammers batterboard pins (iron or wooden stakes) into ground at designated intervals, using sledge. Studies specifications and slope of grade to determine height of batterboard and marks height on pins. Attaches batterboard to pins at indicated height, at right angles to ditch being dug. Levels batterboard using spirit level. Secures string or wire along top of batterboards as guide in grading ditch.

GED: 3 SVP: 4 PA: M 3 4 7 EC: O 5 6 DPT: 6 8 4

APT.													INT.	TEMP.
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8711-174 FRONT-END LOADER OPERATOR (any ind.)

Operates self-propelled pneumatic tire or crawler-tread loader to move or load heavy objects, earth, rock, sand, ore, gravel, snow or other material:

Drives machine to work site. Moves levers and pedals to manoeuvre machine, to lower and force bucket into material, and to lift and tip contents into truck, railroad car or onto conveyor or stock pile. Hoists and moves heavy objects, such as pipe sections or lumber, using wire cable attached to bucket. Observes grade stakes while excavating or backfilling materials in order to maintain specified grade. Services machine and performs routine maintenance, using grease gun and wrenches.

GED: 3 SVP: 3 PA: M 4 7 EC: B 5 6 7 8 DPT: 6 8 3

APT.													INT.	TEMP.
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8711-178 POST-HOLE DRILLER (construction)

Operates earth-boring machine, mounted on truck or tractor, to dig holes for poles or posts:

Drives truck or tractor to work site. Selects and secures auger of specified size on drill, and adds extension bars as required, using bolts and wrenches. Positions drill, starts machine and moves levers to regulate speed and depth of penetration of auger. Services equipment, using lubricants and hand tools.

GED: 3 SVP: 3 PA: M 3 4 7 8 EC: O 5 6 DPT: 6 8 3

APT.													INT.	TEMP.
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4	4	5	4	4	5	4	4	3	3	5		1 9 3	Y 2	

8711-186 DECKHAND, SUCTION DREDGE (construction)

Assembles sections of pipe used to discharge materials excavated by suction dredge:

Aligns and assembles sections of pipe by applying pressure manually to locking devices, using wrenches and other hand tools. Fits sections

of pipe together using clamps, couplings or threaded bolts, working from boat or pontoons. Moves levers and pedals to operate winch to raise, lower or position anchors. Moors and secures barges to be filled with discharge and casts off filled barges. Paints decks and superstructure of dredge, using scraper and brush. Washes deck, using brush and mop. Services dredge and performs routine maintenance, using lubricants and hand tools.

GED: 2 SVP: 3 PA: H 2 3 4 8 EC: O 4 6 DPT: 6 8 7

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
4	4	5	4	4	5	<u>4</u>	<u>4</u>	<u>3</u>	<u>4</u>	5			1	3		2 3

8711-195 DECK WORKER (construction)

Coordinates movement of materials at surface for lowering to bottom of excavation and directs the loading and hoisting of waste materials removed from tunnel excavation:

Assembles materials such as timbers, steel rib sections, bolts and steel pins for loading into car or bucket according to requests from underground foreman/woman, when employed on upper deck. Loads material either manually or using fork lift, and secures material with wire cables. Communicates with lower deck worker and hoist operator by telephone or hand signals, prior to raising or lowering of materials, and directs hoist operator where to dump waste material. Signals upper deck worker when to lower material when employed on lower deck. Positions buggy under materials being lowered and unhooks cable. Directs the loading of material to be raised to surface and hooks cable to bucket. Signals upper deck worker verbally, by hand or using signal system to have material hoisted to surface. Cleans area around excavation edge or pit-bottom of debris, lumber and tools, using shovel, wheelbarrow and dollies when necessary.

GED: 2 SVP: 2 PA: H 2 4 5 6 7 EC: B 4 5 6 DPT: 6 6 7

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
4	4	5	4	4	5	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	5			1	3		2 3

8711-198 MOLE-OPERATOR HELPER (construction)

Helps operator bore horizontal holes through earth banks for installation of pipe lines:

Assists in loading and unloading tools, shovels, augers and other necessary equipment. Levels trench floor and walls for placement of boring-machine timbers, using pick and shovel. Lays foundation timbers for machine and places timer braces to hold machine in position. Helps operator to assemble and position machine, auger sections and casing pipes, using bolts and wrench. Places props between hydraulic rams and end of casing pipe. Shovels earth from hole and removes seepage water, using portable sump pump. Hammers steel wedges into collar shaft to lock auger drive to ram yoke. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 2 PA: H 3 4 EC: O 4 5 6 7 DPT: 6 8 7

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
4	4	5	4	4	5	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	5			1	3		2 3

8711-299 OTHER EXCAVATING, GRADING AND RELATED OCCUPATIONS

This residual group includes excavating, grading and related workers not presently classified in Unit Group 8711.

8713-PAVING, SURFACING AND RELATED OCCUPATIONS

This unit group includes occupations concerned with laying concrete to form road-beds or other sub-surface structures and applying surface materials such as asphalt, gravel or concrete to streets, highways, parking lots or airports. Activities include: operating and tending machines that lay, spread or compact materials and level surfaces; laying metal forms used to mould concrete curbs or paving; laying reinforcing wire mesh; covering earthen surfaces with rocks to prevent soil erosion; and placing and spreading asphalt by hand. Occupations concerned with finishing concrete, other than paving, are classified in Unit Group 8783, CONCRETE FINISHING AND RELATED OCCUPATIONS. Occupations concerned with mixing ready-to-use concrete and asphalt are classified in Unit Group 8799, OTHER CONSTRUCTION TRADES OCCUPATIONS, N.E.C.

8713-110 CONCRETE-PAVING-MACHINE OPERATOR (construction)

Operates machine to lay, spread and smooth wet concrete on prepared bed for highways and similar surfaces:

Starts machine and moves levers and pedals that control movement of machine along rails or on crawler tracks that straddle roadbed. Directs operator of ready-mix concrete truck to fill hopper of paving machine with concrete, and moves levers and wheels to lower hopper that dispenses and spreads wet concrete. Observes surface of concrete to locate low spots and directs workers to add concrete, or uses machine with sensors attached which automatically regulate depth of concrete to be laid. Operates machine accessories to successively vibrate, screed, strike off (remove excess) and float surface of concrete and spray on curing compound. Places roll of material in attachment that automatically inserts material into expansion joints during spreading operation. Services machine and makes minor adjustments and repairs. Cleans hopper and other parts that come in contact with concrete, using brush and water pressure hose. Operates machine that performs single function such as spreading, screeding or floating, as required.

GED: 3 SVP: 5 PA: M 4 5 7 8 EC: O 5 6 DPT: 6 6 3

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
3	4	5	<u>3</u>	4	5	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	5			9	3	1	2 Y

8713-114 ASPHALT-PAVING-MACHINE OPERATOR (construction)

Operates machine to spread and level hot-bituminous-paving material on subgrade of highways, streets and similar surfaces:

Adjusts screed to desired paving width, using wrenches. Lights burners to heat screed and hopper. Signals truck driver to back vehicle into

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dumping position at machine hopper. Starts engine and operates machine controls to advance spreader, and push dump truck, maintaining a constant dumping position. Drives machine along specified path. Observes distribution of paving material and adjusts screed angle to eliminate voids at curbs and joints. Turns valves to regulate temperature of material flowing from hopper. Turns handwheel to raise or lower screed to maintain specified thickness of paving. Cleans machine, using scraper, brush and solvents. Rides platform at rear of paver, when working in a two-man crew, to observe and control distribution of paving material.

GED: 3 SVP: 4 PA: M 4 5 7 8 EC: O 5 6 7 DPT: 6 6 3

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	5	<u>3</u>	4	5	<u>3</u>	4	<u>3</u>	<u>3</u>	5			3 1	2 Y

8713-126 ROAD-ROLLER OPERATOR (construction)

Operates power-driven roller to compact and smooth layers of material such as rock, gravel, earth and asphalt to construct roads, pavements, runways and similar surfaces:

Fills water tanks if rollers are to be moistened or fills rollers to add weight to machine. Moves levers, pedals, handwheels and throttle to control and guide machine. Drives machine in successive overlapping passes to compact surface. Releases water as required over roller to prevent asphalt from sticking to roller and to produce smooth asphalt consistency. Regulates speed and direction of machine to prevent the formation of ridges through excessive pressure, utilizing knowledge of compressibility of material under changing temperature. Lubricates machine and makes minor repairs. Operates roller equipped with special attachments used to roughen or tear up surface, if required.

GED: 3 SVP: 4 PA: M 4 7 8 EC: O 5 DPT: 6 8 3

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	<u>3</u>	4	5	<u>3</u>	4	<u>3</u>	<u>3</u>	5			1 9 3	2 3 Y

8713-130 ROAD-MIXER OPERATOR (construction)

Operates machine that pulverizes soil, adds and mixes binding materials (stabilizes) and lays mixture to specified thickness to provide surface for roads and airport runways:

Moves levers and pedals to raise, lower and activate rotating discs which break up soil to required depth and consistency, and to lower screed (tailboard) that controls thickness of layer. Adjusts rate and depth of agitator action, using levers. Connects supply hose to accompanying tank truck carrying waterproofing compounds, bituminous binders or water. Starts pump, observes gauge and turns valve to control flow of liquid as it is sprayed over soil being pulverized. Drives machine over area in successive passes and observes mixture emerging from machine to ensure thorough pulverization and blending of materials. Services machine as required.

GED: 3 SVP: 4 PA: M 4 7 8 EC: O 5 DPT: 6 8 3

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	<u>3</u>	4	5	<u>3</u>	4	<u>3</u>	<u>3</u>	5			9 1 3	2 3 Y

8713-134 ROAD-PLANER OPERATOR (construction)

Operates machine that heats and scrapes asphalt roads and other asphalt surfaces to smooth finish:

Ignites burner jets of machine's heating unit. Moves levers to lower heating unit to surface of pavement to soften damaged or broken asphalt. Turns handwheels or moves levers to adjust scraper blades to depth of cut required. Drives machine along designated route and controls speed to obtain smooth surface. Services and makes minor adjustments to equipment.

GED: 3 SVP: 3 PA: M 4 7 8 EC: O 5 6 7 DPT: 6 8 3

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	<u>3</u>	4	5	<u>3</u>	4	<u>3</u>	<u>3</u>	5			9 1 3	2 3 Y

8713-138 ROAD-FORM SETTER (construction)

Aligns, grades and fastens together metal or wooden forms used to mould concrete curbs, sidewalks and roads:

Positions and aligns forms to specified street, highway or sidewalk line and grade, using level, tape measure and bar. Places rocks or other material under forms to secure forms in position. Locks metal forms together using nuts, bolts, clamps and hand tools. Props stones and hammers wooden pins in ground to provide support for forms using sledge hammer. Follows and observes curb-laying or paving machine, adjusting forms where necessary. Prys wooden pegs from ground using bar. Strips forms from concrete and cleans for reuse, using hand tools.

GED: 2 SVP: 4 PA: M 3 4 7 EC: O DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	<u>4</u>	4	5	<u>3</u>	4	<u>3</u>	4	5			3 1	2 Y 3

8713-142 CONCRETE-GROOVING-MACHINE OPERATOR (construction)

Operates machine to clean expansion joint grooves, cut new grooves in concrete pavement or rout cracks in concrete and asphalt pavement:

Sets cutters in cutter head and mounts cutter head on cone of main drum shaft, using hand tools. Guides machine along joint or crack, sighting through mirror fastened to front of machine, to cut out and shape grooves or cracks on roadway. Cleans and replaces cutters when dirty or worn, and lubricates machine when necessary.

GED: 2 SVP: 3 PA: M 4 7 8 EC: O 5 7 DPT: 6 8 3

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	<u>4</u>	4	5	<u>4</u>	4	<u>3</u>	4	5			9 3 1	2 3

8713-150 SLIP-FORM-CURB-MACHINE TENDER (construction)

Tends self-propelled machine that automatically casts and lays concrete curbs and gutters on streets and parking lots:

Bolts sensors to machine to regulate depth of concrete to be laid.

Positions machine so that sensors touch pre-aligned guide cord, or sets machine on pre-aligned tracks assisted by co-workers. Signals truck driver to pour concrete into machine hopper. Moves clutch lever to set machine and compacting worm in motion. Adjusts hand controls to regulate speed of machine. Observes flow and consistency of discharging concrete. Makes minor mechanical adjustments to machine, if required, using hand tools.

GED: 2 SVP: 3 PA: M 4 7 8 EC: O 5 6 DPT: 6 6 5

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	5	4	4	5	<u>4</u>	4	<u>3</u>	4	5				9	3	1	2 3	

8713-154 ROLLER-COMPACTOR OPERATOR (construction)

Operates power-assisted-walking roller to compact asphalt paving or sub-surface at construction sites:

Starts motor, using pull-cord or push button. Moves levers to engage clutch and control speed of machine. Walks behind and guides machine over area, making successive-overlapping passes to obtain desired compaction. Fills roller with water at worksite to increase weight of machine.

GED: 2 SVP: 2 PA: M 4 8 EC: O 5 DPT: 6 8 3

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	5	4	4	5	4	4	<u>4</u>	<u>4</u>	5				9	3	1	2 3	

8713-158 TAMPER OPERATOR (construction)

Operates compacting machine to tamp soil, sand, gravel and other material at construction sites:

Positions machine on ground to be compacted. Starts machine using pull-cord. Moves lever to start tamping action and moves hand throttle to control speed. Holds handle to guide and balance machine and to push and pull machine over area to be compacted, or operates self-propelled machine that requires guiding only. Shovels earth and sand along sides of foundations, sidewalks or culverts to obtain even surface or contour after compacting. Compacts asphalt and other materials in areas inaccessible to roller compactor machine, if required.

GED: 2 SVP: 2 PA: V H 4 8 EC: O 5 6 7 DPT: 6 8 3

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	5	4	4	5	4	4	<u>4</u>	4	5				9	3	1	2 3	

8713-162 REINFORCING-WIRE-MESH WORKER (construction)

Lays wire mesh used for reinforcing concrete on embankments, roads and retaining walls:

Measures and cuts wire mesh from roll to specified length, using shears. Measures, cuts and staples or nails vapour barrier, such as tar paper or plastic sheeting, to wall surface if required. Fits mesh to embankment contour, curbing and road opening. Lays mesh on pre-

pared road-bed by pulling mesh into position manually. Pegs mesh to subgrade with steel pins, using hammer. Feeds reinforcing rods into slip-form curb paving machine to be extruded with concrete in appropriate form. Wires wire-mesh sections together using pliers. Carries and piles wire mesh and vapour barrier material, as required.

GED: 2 SVP: 2 PA: H 3 4 EC: O DPT: 6 8 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	4	<u>4</u>	4	5	<u>4</u>	4	<u>3</u>	4	5				3	1		2 3	

8713-166 RIP-RAP PLACER (construction)

Covers surface of earthen slopes or drainage channels with rip-rap (stones or boulders) to prevent soil erosion, or provide decorative surface:

Carries, pulls or rolls stones in place on embankment. Lays small stones in voids between large stones to attain even surface of specified thickness. Moves and replaces stones to align edges. Mixes and trowels concrete between rocks, as required, to hold rocks in position.

GED: 2 SVP: 2 PA: H 2 3 4 7 EC: O DPT: 6 8 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	5	<u>4</u>	4	5	<u>4</u>	4	<u>4</u>	<u>4</u>	5				3	1		2 3	

8713-170 ROAD-SPRAY-TRUCK TENDER (construction)

Tends distributor on rear of tank truck or operates distributor truck that sprays tar, asphalt, road oils and emulsions on highways, streets and parking lots:

Positions and adjusts spray bars to attain required width of spray. Moves levers to adjust height of spray bar above road surface. Pushes button to start pump and turns valve to regulate flow of material at specified rate. Monitors flow gauges, tachometer and temperature gauge. Signals driver to start and stop truck. Rides on platform at rear of truck and observes the flow, texture and distribution of material on road surface. Unscrews spray nozzles to remove foreign matter and prevent clogging. Sprays spray-bar, nozzles and rear of truck with diesel oil to prevent build-up of spray materials. Runs diesel oil through piping system to prevent coagulation of spray materials.

GED: 2 SVP: 2 PA: M 2 4 7 8 EC: O 5 6 7 DPT: 6 6 5

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	5	4	4	5	<u>4</u>	4	<u>4</u>	4	5				1	9	3	2 3	

8713-174 CHIP-SPREADER TENDER (construction)

Tends machine that spreads stone chips, gravel, cold mix asphalt and other materials on road surface:

Signals driver of truck to dump chips into hopper of spreader-machine. Spreads material evenly in hopper using shovel. Moves lever to adjust hopper opening so that specified amount of material is deposited evenly on road surface. Observes hopper, chutes and belts to ensure even flow of gravel and makes adjustments to machinery as necessary, using wrench. Cleans machine and lubricates moving parts.

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GED: 2 SVP: 2 PA: M 4 7 8 EC: O 5 7 DPT: 6 6 5

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 4 4 5 <u>4</u> 4 <u>4</u> 4 5	1 9 3	2 3

8713-178 CONCRETE-MIXER-OPERATOR HELPER, HIGHWAY (construction)

Helps other workers operate and maintain machine that mixes and pours concrete over prepared bed for paving highways and similar surfaces:

Connects water line to machine and fills water reservoir to prescribed level. Signals truck driver to back up truck and dump dry concrete mix into skip. Checks quality and regulates flow of discharging concrete, using buttons and levers, and informs driver of any changes in procedure, using hand and vocal signals. Helps operator make minor repairs to equipment using hand tools. Lubricates equipment using grease gun and oil can. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 2 PA: H 2 3 4 EC: O 5 6 DPT: 6 6 7

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 4 4 5 <u>4</u> 4 <u>3</u> 4 5	3 1	2 3

8713-182 ASPHALT LAYER, ROAD (construction)

Lays and repairs asphalt-road surfaces:

Follows asphalt-paving machine or spreader attached to dump truck which distributes asphalt mix over surface, and rakes material into seams to eliminate voids and provide even surface, using rake, squeegee or lute. Smooths surface and edges, after compaction by roller, using smoothing iron. Cuts and trims damaged surfaces using jackhammer, or softens edges of area to be repaired with blowtorch. Sweeps and sprinkles damaged surface with liquid asphalt or other bonding agent. Shovels asphalt mix into repaired areas and areas inaccessible to paving and roller-compactor machines, and levels and compacts mix using rake and hand tamper.

GED: 2 SVP: 2 PA: H 4 8 EC: O 6 7 DPT: 6 8 7

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 4 4 5 <u>4</u> 4 <u>4</u> 4 5	3 1	2 3

8713-299 OTHER PAVING, SURFACING AND RELATED OCCUPATIONS

This residual group includes paving, surfacing and related workers not presently classified in Unit Group 8713.

8715-RAILWAY SECTION AND TRACK WORKERS

This unit group includes occupations concerned with laying, aligning, inspecting and repairing tracks, and roadbeds of

railways, station yards, subways, and street, mine and industrial railways. Activities include: operating equipment to clean, spread, level and tamp ballast; to cut, remove, lift and place ties and to raise, level and align tracks; driving equipment to remove snow and debris from tracks and to move and lay track in open-pit mines; and inspecting, maintaining and repairing track switches.

8715-110 BALLAST-REGULATOR OPERATOR (rail trans.)

Operates self-propelled-grading machine to transfer, spread and level stone ballast around ties and rails, and to regulate and shape ballast slope to provide drainage for tracks and road bed:

Moves levers and pedals to control movement of machine on tracks and to raise, lower, adjust and manipulate reversible scarifying wings, grading blades and rotating brushes. Drives machine in successive passes along rails before and after track has been levelled to shape and spread ballast around ties. Sweeps ballast from top of ties using lever to control rotating brushes. Moves controls to operate hydraulic turntable to change direction or set machine off tracks onto side rails. Services machine in accordance with standard maintenance procedures. Directs the work of helper when grading ballast on both sides of track.

GED: 3 SVP: 5 PA: L 4 7 8 EC: O 5 7 DPT: 6 6 3

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 4 5 <u>3</u> 4 5 <u>3</u> 4 <u>3</u> 3 5	1 9 3	2 Y

8715-114 TRACK-ALIGNER OPERATOR (rail trans.)

Operates self-propelled machine on railway track to align track:

Adjusts control panel settings and operates levers and pedals to move machine and align tracks. Strings wire guidelines through levelling or aligning fixtures or follows other grade and alignment guides such as coded light system, electronic indicators on control board, or manual or automatic-graphliner recorder system. Moves controls to operate hydraulic turntable to change direction or set machine off onto side rails. Services machine in accordance with standard maintenance procedures and makes minor repairs or adjustments when required. Operates combined tamper-aligner machine, as required, that functions as both a track aligner and ballast tamper.

GED: 3 SVP: 5 PA: L 4 7 8 EC: O 5 6 7 DPT: 6 8 3

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 4 5 <u>3</u> 4 5 <u>3</u> 4 <u>3</u> 3 4	1 9 3	2 Y

8715-118 RAILWAY-TRACK-TAMPER OPERATOR (rail trans.)

Operates and controls self-propelled ballast-tamping machine to compact crushed stone around railway ties to produce firm roadbed for tracks:

Drives machine along tracks to work location. Starts diesel generator and hydraulic system to control tamping heads. Moves levers and presses buttons to position machine over tie and actuate vibrating-hydraulic-tamper heads to compact ballast around tie, or sets machine

controls so that machine automatically senses tie, stops in correct position, and tamps ballast. Adjusts controls to operate tamping heads independently or simultaneously, and to select depth and vary thrust of tamping heads. Moves controls to operate hydraulic turntable to change direction or to set machine off track onto side rails. Services machine in accordance with standard maintenance procedures and makes minor repairs or adjustments.

GED: 3 SVP: 4 PA: L 4 7 8 EC: O 5 6 7 DPT: 6 8 3

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 4 5 <u>4</u> 4 5 <u>3</u> 4 <u>3</u> <u>3</u> 5	1 9 3	2 Y

8715-134 SNOW-BLOWER OPERATOR (rail trans.)

Drives self-propelled machine such as ballast-regulator fitted with snow-cleaning attachment to remove snow from railway switches and tracks:

Drives machine along track and manipulates levers and pedals to control operation and speed of rotary brushes and auger-blower. Moves controls to operate hydraulic turntable to change direction or to set machine off track onto side rails. Services machine according to standard maintenance procedures and makes minor repairs and adjustments if required.

GED: 3 SVP: 3 PA: L 4 7 8 EC: I 5 6 DPT: 6 8 3

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 <u>4</u> 4 5 <u>3</u> 4 <u>3</u> <u>3</u> 5	1 9 3	2

8715-138 TRACK-BROOM MACHINE OPERATOR (rail trans.)

Drives machine such as ballast regulator fitted with rotating broom to sweep ballast off ties and tracks:

Pushes or pulls levers and depresses pedals to control speed and direction of machine. Turns handwheels to lower brooms that sweep ballast off ties and tracks. Moves controls to operate hydraulic turntable to change direction or to set machine off track onto side rails. Services machine according to standard maintenance procedures and makes minor repairs and adjustment.

GED: 3 SVP: 3 PA: L 4 7 8 EC: O 5 6 7 DPT: 6 8 3

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 <u>4</u> 4 5 <u>3</u> 4 <u>3</u> <u>3</u> 5	1 9 3	2

8715-139 TIE-BED SCARIFIER MACHINE OPERATOR (rail trans.)

Operates machine to loosen compacted ballast in railway track road-bed prior to laying new ties:

Moves levers to lower scarifier head. Moves hand and foot controls to work machine back and forth over area until old ballast is loosened. Replaces worn or broken scarifier hooks and prongs using hand and power tools. Moves controls to operate hydraulic turntable to change direction or to set machine off tracks onto side rails. Services machine

according to standard maintenance procedures, and makes minor repairs and adjustments when required.

GED: 2 SVP: 3 PA: M 4 7 8 EC: O 5 6 DPT: 6 8 3

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 <u>4</u> 4 5 <u>4</u> 4 <u>3</u> <u>3</u> 5	1 9 3	2 3

8715-140 TIE-CRANE OPERATOR (rail trans.)

Operates machine to lift and position ties prior to insertion under rails: Operates levers and pedals to rotate crane deck, booms and grapple head to pick up position and drop railway ties onto track at designated places. Moves controls to operate hydraulic turntable to change direction or to set machine off track onto side rails. Services machine according to standard maintenance procedures and makes minor adjustments and repairs when required.

GED: 2 SVP: 3 PA: M 4 7 8 EC: O 5 6 DPT: 6 8 3

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 <u>4</u> 4 5 <u>4</u> 4 <u>3</u> <u>3</u> 5	1 3 9	2 3

8715-141 TIE-CUTTING-MACHINE OPERATOR (rail trans.)

Operates machine to cut and remove defective ties from under railway tracks:

Drives machine along tracks to work site. Lowers cutting blades and makes cuts in tie using hand and foot controls. Operates controls to pick up and discard centre section of tie and to push butt ends of tie out from under rails. Unbolts and changes cutters and makes other minor repairs and adjustments as required, using hand and power tools. Moves controls to operate hydraulic turntable to change direction or to set machine off track onto side rails. Services machine in accordance with standard maintenance procedures.

GED: 2 SVP: 3 PA: L 4 7 8 EC: O 6 DPT: 6 8 3

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 <u>4</u> 4 5 <u>4</u> 4 <u>3</u> <u>3</u> 5	1 3 9	2 3

8715-142 TRACK REPAIRER (rail trans.)

Lays and repairs track used in regular-railway service or plant yards, quarries and mines, working as member of crew:

Transports tools and equipment on push or handcar. Clears loose material from walls and roof, using pry-bar and shovel, and from tunnel bottom, using air hose and shovel, to prepare track road bed when working in underground mine. Carries and places ties at specified intervals across roadbed and positions rails on ties, using gauge and iron bar to lever rails into position. Operates tie-adzing machine to cut beds for tie plates. Drives spikes with sledge hammer to fasten rails to ties. Saws rails to required length, drills bolt holes at end of rails and grinds worn or rough rail ends using portable power tools.

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Bolts sections of rail or switch components together, using long-handled spanner or pneumatic-impact wrench. Lifts tie and track and tamps ballast under tie to raise track to specified level, and provide firm foundation for tie, using jack, shovel and tamping iron or portable-tamping machine. Curves rails with rail bender. Removes and replaces worn or damaged rails, ties and switches, using spike puller, pick, shovel, sledge hammer, claw bar and wrenches. Operates pneumatic drill to break up pavement if required when replacing ties at crossings. Cleans and lubricates switches and makes minor repairs. Services switch lamps as required. Cuts weeds and brush along side of track using scythe and power cutters. Shovels snow and spreads salt to keep tracks, switches, and crossings operational during winter months.

GED: 2 SVP: 3 PA: V H 3 4 8 EC: O 5 6 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	4	<u>4</u>	5	<u>3</u>	4	<u>3</u>	4	5			1 9 3	Y 2

8715-143 TIE-INJECTOR MACHINE OPERATOR (rail trans.)

Operates machine to pick up and insert ties under railway tracks: Pulls levers to open and close tongs around tie, and to move tie into injector head. Positions boom and tie, and thrusts tie under rails using levers. Moves controls to operate hydraulic turntable to change direction or to set machine off track onto side rails. Services machine according to standard maintenance procedures and makes minor repairs or adjustments of required.

GED: 2 SVP: 3 PA: L 4 7 8 EC: O 6 DPT: 6 8 3

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	<u>4</u>	4	5	<u>4</u>	4	<u>3</u>	<u>3</u>	5			3 1	2 3

8715-146 RAILWAY-TRACK GRINDER (rail trans.)

Grinds railway-switch points, diamond crossings, frogs and ends of newly-laid rails to ensure smooth and safe operation of rolling stock: Drives track-motor car or road truck to transport equipment to work location. Starts gasoline engine that drives flexible shaft and grinding wheel. Holds face or rim of grinding wheel against steel-rail parts to remove imperfections such as welding build-up or worn section or to level rail ends, using fixed gauge to verify conformance to specified shape and dimension. Replaces worn or chipped grinding wheels using hand tools.

GED: 2 SVP: 3 PA: V H 3 4 7 8 EC: O 5 6 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	4	<u>4</u>	5	<u>4</u>	4	<u>3</u>	4	5			1 9 3	2 Y 3

8715-150 TRACK PATROLLER (rail trans.)

Inspects railway tracks to detect defective switches and rails: Walks between rails on railway tracks to detect damaged, worn or broken rails, pulled spikes or bolts, broken fish plates, soft track beds

or wash-outs. Verifies distance between rails, using track gauge. Records nature and location of defects and passes report to maintenance crews for action. Patrols designated area such as switching yards with handcar as required.

GED: 2 SVP: 3 PA: L 6 7 8 EC: O DPT: 6 8 7

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	4	<u>4</u>	4	4	4	4	4	5			3 1	2 3 6

8715-154 RAIL-LUBRICATOR REPAIRER (rail trans.)

Adjusts and maintains mechanical-rail lubricators in yard of industrial-railway system:

Patrols railway tracks on foot to determine condition and operation of lubricators. Adjusts regulators and replaces defective parts, using hand tools. Replenishes grease in reservoir from portable container. Cleans area of dirt, ice and snow using broom, pick and shovel.

GED: 2 SVP: 2 PA: M 3 4 7 EC: O 6 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	4	<u>4</u>	5	<u>4</u>	4	<u>4</u>	4	5			1 3	2 3 6

8715-160 ANCHOR-MACHINE OPERATOR (rail trans.)

Operates machine to apply or re-position anchors against ties and onto rails to prevent railway ties from shifting:

Drives machine along tracks to work site. Positions anchor against rail manually, or operates control on rocker arm attachment which dispenses anchors automatically. Squeezes anchor against tie and presses and locks anchor to base and under rail by moving levers. Attaches anchor-tightening-accessory unit to machine, using bolts and hand tools. Moves levers on accessory unit to re-position and tighten anchors that have loosened or shifted through usage. Operates hydraulic jack cylinder to rotate machine into work position on opposite rail or to set machine off track onto side rails. Services machine according to standard maintenance procedures and makes minor repairs if required.

GED: 2 SVP: 2 PA: L 3 4 7 8 EC: O 5 DPT: 6 8 3

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	<u>4</u>	4	5	<u>4</u>	4	<u>3</u>	<u>3</u>	5			9 1 3	2 3

8715-162 RAIL-LIFTER MACHINE OPERATOR (rail trans.)

Operates machine to place or remove tie plates on railway track:

Drives machine along tracks to work site. Operates lever to attach clamps to rail. Moves levers to lift, hold and lower each rail to place or remove tie plate. Places tie plate manually, or operates rail lifter for other workers placing or removing tie. Services machine according to standard maintenance procedures and makes minor repairs if required.

GED: 2 SVP: 2 PA: L 3 4 7 8 EC: O 6 DPT: 6 8 3

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
4	4	5	4	4	5	4	4	3	3	5	9 1 3
											2 3

8715-164 SPIKE-DRIVER MACHINE OPERATOR (rail trans.)

Operates machine to drive rail spikes into tie plates and ties on railway track:

Drives machine along tracks to work site. Moves lever to drive spike automatically through hole in tie plate and into tie. Fills feed slots with spikes as needed. Moves controls to operate turntable to change direction or to set machine off track onto side rails. Services machine according to standard maintenance procedures and makes minor adjustments and repairs when required.

GED: 2 SVP: 2 PA: L 4 7 8 EC: O 6 DPT: 6 8 3

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
4	4	5	4	4	5	4	4	3	3	5	1 3 9
											2 3

8715-166 SPIKE-PULLER MACHINE OPERATOR (rail trans.)

Operates machine to pull rail spikes from tie plates and ties on railway track:

Drives machine along tracks to work site. Moves lever to lower spike pulling assemblies to straddle rails and to raise assemblies from rails after pulling spikes. Adjusts assemblies manually to match spike pattern and height on rail. Operates control lever to pull spikes out of tie plates and ties from both sides of rail simultaneously. Moves control to operate hydraulic turntable to change direction and to set machine off track onto side rails. Services machine according to standard maintenance procedure and performs minor repairs if required.

GED: 2 SVP: 2 PA: L 4 7 8 EC: O 6 DPT: 6 8 3

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
4	4	5	4	4	5	4	4	3	3	5	1 3 9
											2 3

8715-199 OTHER RAILWAY SECTION AND TRACK WORKERS

This residual group includes railway section and track workers not presently classified in Unit Group 8715.

8718-OCCUPATIONS IN LABOURING AND OTHER ELEMENTAL WORK: EXCAVATING, GRADING AND PAVING

This unit group includes occupations in labouring and other elemental work, as described under the term title, 02-190 LABOURER/ELEMENTAL WORKER (any ind.), which are concerned with excavating and grading earth materials;

laying paving materials; clearing land at construction sites; erecting cribbing and bracing in excavations; placing water and sewer pipes; laying and aligning tracks and performing dredging and traffic control duties.

8718-110 LABOURER, BITUMINOUS PAVING (construction)

Assists in laying hot- or cold-mix bituminous paving materials, performing any combination of the following duties:

Sweeps pavement bases preparatory to laying of asphalt surface. Sprinkles or brushes hot- or cold-mix asphalt over surfaces to be paved or repaired to bond asphalt topping to base, using perforated dipper or brush. Sprays tacking mixture on graded surface preparatory to paving, using tank-truck hose. Brushes or shovels asphalt into small areas that have been missed by machine. Guides truck driver to unloading point, using oral or hand signals, and trips tail-gate lever to discharge hot-mix asphalt into hopper of paving machine. Hooks screeder pan (spreader) to rear of truck discharging asphalt. Scrapes asphalt adhering to truck bed, using rake or shovel. Tamps patches of freshly-laid asphalt in places inaccessible to road roller, using hand tamper or portable tamping machine. Erects and dismantles barricades. Directs flow of traffic. Assists in loading equipment and cleans work site.

GED: 1 SVP: 2 PA: H 3 4 EC: O 6 7 DPT: 6 6 7

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
4	4	5	4	4	5	4	4	4	4	5	3 1
											2 3

8718-114 LABOURER, CONCRETE PAVING (construction)

Positions reinforcing material, removes and cleans forms and performs other manual tasks in construction of concrete highways and streets:

Assembles necessary tools and equipment manually or using wheelbarrow. Digs trench for concrete curbs using pick and shovel preparatory to laying forms. Positions reinforcing steel bars or wire mesh over subgrades and wires reinforcing materials in place with pliers. Guides truck driver into position with hand signals and opens truck tail-gate to dump material into hopper of concrete-paving machine. Spreads concrete in front of finishing machine with shovel to attain even distribution along screed. Removes forms from cured concrete, using claw hammer and wrecking bar. Cleans and oils equipment and tools. Chips concrete from expansion joints, dowel pins, forms and equipment, using pick, hammer and chisel. Fills expansion joints of concrete paving with hot bituminous. Loads and unloads truck to transport forms and other paving equipment and materials.

GED: 1 SVP: 2 PA: H 3 4 EC: O 5 6 DPT: 6 6 7

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
4	4	5	4	4	5	4	4	4	4	5	3 1
											2 3

8718-118 LABOURER, EXCAVATION (construction)

Performs any combination of the following manual duties in clearing, excavating, or grading construction sites, such as buildings, highways and streets, and water, sewage or drainage lines:

Burns brush and removes sticks, rocks and other foreign material to

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clear site. Drives stakes with heavy hammer to indicate designated points of construction site, according to oral instructions. Digs post holes, using post-hole digger or long handled shovel. Spreads and levels dirt, gravel and sand on roadways and driveways, trench bottoms and similar locations using pick and shovel. Trims sides and squares corners not reached by excavating machine, using pick and shovel in preparation for laying of forms. Shovels excavated material onto conveyor, wheelbarrow or truck for removal from excavation. Directs truck driver to spot where load is to be dumped, using hand signals, and levels dumped material with shovel. Rolls, lifts or manually guides culvert sections into position. Bolts metal bands over section ends to position and assemble corrugated-iron culvert. Saturates loose-dirt fill with water to settle and compact fill.

GED: 1 SVP: 2 PA: H 2 3 4 EC: O 4 6 DPT: 6 6 7

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 4 4 5 <u>4</u> 4 <u>4</u> <u>4</u> 5	3 1	2 3

8718-120 LABOURER, UNDERGROUND (construction)

Performs any combination of the following duties concerned with underground construction work such as assembling and installing forms, laying track and installing water and sewer pipes: Shovels earth into waste disposal cars. Erects steel or wood cribbing to support tunnel walls during underground excavation, using wrenches, bar and hammer. Installs and removes tracks on which powered cars operate, using sledge hammer, pry bars and other hand tools. Positions and starts powered pump to siphon water from tunnel. Clamps or interlocks sections of expansion tubing to provide ventilation, and secures these to tunnel walls, using brackets and hand tools. Couples or screws pipelines together to bring concrete from ground level to desired area in tunnel. Strings electric cable along tunnel walls to provide power for tools and equipment. Assists in placing water and sewer pipes during installation.

GED: 1 SVP: 2 PA: H 2 3 4 EC: I 4 5 6 7 DPT: 6 8 7

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 4 4 5 <u>4</u> 4 <u>4</u> <u>4</u> 5	3 1	2 3

8718-126 FLAGMAN/WOMAN (construction)

Directs traffic when construction work obstructs normal traffic route: Stands in conspicuous location to stop traffic with flag, sign or lantern when route is obstructed or restricted by construction equipment or traffic from opposite direction. Signals traffic to proceed when obstruction is cleared. Works normally in conjunction with flagman/woman at opposite end of construction site to control flow of traffic in both directions. Rides on moving vehicle, as required, stretching out arm with signal to coordinate traffic flow in both directions. Explains to motorists reasons for prolonged delays.

GED: 1 SVP: 1 PA: L 4 5 6 EC: O 6 7 DPT: 8 6 7

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 4 4 5 4 4 <u>4</u> 4 5	3 1	2 3

8718-130 LABOURER, SHORE DREDGING (construction)

Shovels muck to keep discharge end of dredge pipe free from obstruction:

Levels muck with shovel and braces discharge pipe. Assembles sections of quick-coupling pipe by applying manual pressure to locking device. Removes sections of pipe, as required, using hammer. Moves and positions pipe by hand, according to oral instructions. Assists in dismantling pipeline on completion of job.

GED: 1 SVP: 1 PA: H 3 4 EC: O 4 DPT: 8 8 7

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 4 4 5 4 4 <u>4</u> <u>4</u> 5	3 1	2 3

8718-138 LABOURER (construction; rail trans.)

Performs manual tasks as member of railway construction and maintenance work crew:

Transports tools and equipment on handcars. Loads and unloads railway ties onto and off flat cars. Spreads ballast along sides of track, using shovel. Cuts weeds and brush along right-of-way, using scythe and power cutters. Burns or carries brush to disposal point. Assists in laying, aligning and curving rails, using rail bender.

GED: 1 SVP: 1 PA: V H 3 4 EC: O 2 3 DPT: 8 8 7

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 4 4 5 <u>4</u> 4 <u>4</u> <u>4</u> 5	3 1	2 3

8718-199 MISCELLANEOUS OCCUPATIONS IN LABOURING AND OTHER ELEMENTAL WORK, EXCAVATING, GRADING AND PAVING

This residual group includes excavating, grading and paving labourers and other elemental workers not presently classified in Unit Group 8718.

8719-EXCAVATING, GRADING, PAVING AND RELATED OCCUPATIONS, N.E.C.

This unit group includes occupations, not elsewhere classified, concerned with activities related to excavating, grading, and paving; such as operating pile drivers; performing duties in support of pile-driving; installing septic tanks; and operating jackhammers.

8719-110 PILE-DRIVER OPERATOR (construction)

Operates pile-driver mounted on skids, barge, crawler treads, rubber tired mobile crane or locomotive crane to drive piling as foundations for structures, such as buildings, bridges and piers:

Attaches piling leads to crane when driving wood, steel, pre-stressed concrete and sheet-piling, and mandrel when driving dry-mix concrete plugs. Moves levers and pedals to control hoisting equipment, position piling leads, hoist piling into leads and position hammer over pile.

Moves levers and turns valves to activate power-driven hammer, or to raise and lower drop-hammer that drives piles to required depth. Moves controls to lift and position steel casing to hold dry-mix plug and wet mix concrete, and removes casing with cables attached to crane boom after driving dry-mix plug, if required. Services machine according to standard maintenance procedures or supervises performance of these activities.

GED: 3 SVP: 4 PA: M 4 7 8 EC: O 5 6 DPT: 6 8 2

APT.													INT.		TEMP.		
G	V	N	S	P	Q	K	F	M	E	C							
3	4	4	<u>3</u>	4	5	<u>3</u>	4	<u>3</u>	<u>3</u>	5			9	1		2	Y

8719-112 LEAD PLACER, PILE-DRIVING (construction)

Positions pile-driver leads, and guides wooden, steel, pre-stressed concrete and casing-type piles into leads and guides interlocking-sheet piles into position preparatory to driving: Directs other workers with oral or hand signals to position leads and attach blocks and struts to hold leads in position. Signals pile-driver operator to raise piles into leads or to raise sheet piles into position for interlocking. Moves pole piles by hand or pulls rope to guide poles or sheet piles into position. Checks and plumbs piles using spirit level, and corrects plumb, if necessary, using jack crowbar, sledge hammer and wedges. Signals operator to drive piles.

GED: 3 SVP: 5 PA: V H 2 4 5 6 7 EC: O 5 6 DPT: 6 6 4

APT.													INT.		TEMP.		
G	V	N	S	P	Q	K	F	M	E	C							
3	4	4	<u>3</u>	<u>4</u>	5	<u>3</u>	4	<u>3</u>	<u>3</u>	5			9	1		2	Y

8719-114 SEPTIC-SYSTEM INSTALLER (construction)

Installs septic tanks and drain lines for sewage-disposal systems: Studies drawings to determine location and depth of septic tank and drain lines. Measures and stakes out excavation area. Operates or directs other worker to back-hoe excavation and trenches for tanks and pipes and to distribute crushed rock or gravel to provide drainage base. Lowers septic tank into excavation, using hoist. Mixes mortar and caulks drainpipe at joints, using hand tools. Cements pipe to septic tank. Directs workers engaged in spreading crushed rock and gravel to specified grade and laying and connecting tile drainpipe. Lays drainage tiles and covers with tar paper and gravel. Verifies slope of drainpipes using carpenter's level. Refills or directs other worker to refill excavation, using back-hoe.

GED: 3 SVP: 4 PA: M 3 4 5 7 8 EC: O 6 DPT: 6 6 3

APT.													INT.		TEMP.		
G	V	N	S	P	Q	K	F	M	E	C							
3	4	4	<u>3</u>	4	4	<u>3</u>	4	<u>3</u>	<u>3</u>	5			9	1		2	Y 0

8719-118 PILE-DRIVER-WINCH WORKER (construction)

Operates power winch to move barge or skid-mounted pile-driver into position and hold pile-driver leads in position for driving piles: Attaches lines to piling or snubbing post to pull or anchor pile-driver.

Moves levers to control winding in or letting out of ropes or cables on winch drum to move barge or skid-mounted pile-driver, pile-driver leads or piles into position. Fastens lines to pile-driver platform or barge to hold pile-driver in place while driving piles.

GED: 3 SVP: 4 PA: M 3 4 8 EC: O 5 6 DPT: 6 8 3

APT.													INT.		TEMP.		
G	V	N	S	P	Q	K	F	M	E	C							
3	4	4	<u>3</u>	4	5	<u>4</u>	4	<u>3</u>	4	5			1	9		2	Y

8719-132 LEAD-PLACER HELPER, PILE-DRIVING (construction)

Helps align wood, steel or pre-stressed concrete piles in leads and removes pile lines:

Digs starting hole where piling is to be driven using pick and shovel. Attaches hoist lines to piles preparatory to hoisting piles into driving position. Climbs lead to position piles, or aids other workers to position leads and piles. Signals pile-driver operator to position piles and to start and stop pile-driver hammer. Straddles top of sheet-piling to guide and interlock edges of adjacent piles, and applies grease to interlocking edges of sheet-piling to facilitate driving. Attaches chain or cable around piles and leads to maintain exact vertical direction. Cleans piling or clears dirt and sand away from base of pile, using shovel, axe or high pressure hose. Squares ends, points wooden piles and tapers head end to fit pile-driver hammer, using axe, adze and cross-cut or chain saw. Measures, cuts, bores holes and bolts or spikes structural members of docks and wharves, as required, using hand and power tools. See also definition for term title, 02-160 HELPER (any ind.)

GED: 2 SVP: 2 PA: V H 2 4 5 6 7 EC: O 5 6 DPT: 6 6 4

APT.													INT.		TEMP.		
G	V	N	S	P	Q	K	F	M	E	C							
4	4	5	<u>4</u>	<u>4</u>	5	<u>4</u>	4	<u>4</u>	<u>3</u>	5			3	1		2	3

8719-136 HAMMER OPERATOR, PILE-DRIVING (construction)

Operates generator controls on ground to regulate action of pile-driving hammer attached to crane:

Connects and disconnects air or hydraulic hoses from generator to driving-hammer head on crane using hand tools. Attaches required driving head to crane using hand tools. Signals crane operator to lift and position hammer head on top of pile. Moves switches or levers on generator to control hammer action. Cleans, oils and greases machine and makes minor repairs or adjustments to equipment.

GED: 2 SVP: 2 PA: M 4 7 EC: O 5 6 DPT: 6 6 4

APT.													INT.		TEMP.		
G	V	N	S	P	Q	K	F	M	E	C							
4	4	5	<u>4</u>	<u>4</u>	5	<u>4</u>	4	<u>4</u>	<u>4</u>	5			3	1		2	Y

8719-142 AIR-HAMMER OPERATOR (construction)

Breaks, drills and loosens materials such as asphalt, concrete, brick, stone and earth, using pneumatic hammer:

Connects air hose from compressor to hammer and inserts appropriate tool such as bull point, chisel, steel-drill bit or spade into chuck. Presses switch to activate hammer and guides, lifts and moves hammer along material to be broken up. Assists other workers to erect and dismantle scaffolding and other equipment, tidy site, and perform miscellaneous duties, as necessary. Greases and oils hammer.

GED: 2 SVP: 2 PA: V H 2 3 4 8 EC: O 5 6 7 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	4	4	5	4	4	3	4	5			3 1	2 3

8719-199 OTHER EXCAVATING, GRADING, PAVING AND RELATED OCCUPATIONS

This residual group includes excavating, grading, paving and related workers that cannot be classified elsewhere in Minor Group 871.

873 – ELECTRICAL POWER, LIGHTING AND WIRE COMMUNICATIONS EQUIPMENT ERECTING, INSTALLING AND REPAIRING OCCUPATIONS

This minor group includes occupations concerned with erecting, installing, repairing, inspecting and testing equipment for electric power generation, transmission and distribution; wiring in buildings and ships; and wire communication services. These occupations are classified in the following unit groups:

- 8730** Foremen/women: Electrical Power, Lighting and Wire Communications Equipment Erecting, Installing and Repairing Occupations
- 8731** Electrical Power Line Workers and Related Occupations
- 8733** Construction Electricians and Repair Workers
- 8735** Wire Communications and Related Equipment Installing and Repairing Occupations
- 8736** Inspecting and Testing Occupations: Electrical Power, Lighting and Wire Communications Equipment Erecting, Installing and Repairing
- 8738** Occupations in Labouring and Other Elemental Work: Electrical Power Lighting and Wire Communications Equipment Erecting, Installing and Repairing
- 8739** Electrical Power, Lighting and Wire Communications Equipment Erecting, Installing and Repairing Occupations, n.e.c.

8730-FOREMEN/WOMEN: ELECTRICAL POWER, LIGHTING AND WIRE COMMUNICATIONS EQUIPMENT ERECTING, INSTALLING AND REPAIRING OCCUPATIONS

This unit group includes occupations, as described under the master title, 01-250 SUPERVISOR; FOREMAN/WOMAN (any ind.), concerned with supervising and coordinating the activities of workers engaged in erecting, installing, repairing, inspecting and testing electrical power, lighting and wire communications equipment.

8730-110 FOREMAN/WOMAN, CONSTRUCTION ELECTRICIANS AND REPAIR WORKERS (construction)

Supervises and coordinates activities of workers engaged in installing and repairing electrical wiring and related equipment in houses, ships, industrial and commercial establishments and other buildings (Unit Group 8733).

DPT: 1 3 8

8730-114 FOREMAN/WOMAN, ELECTRICAL POWER LINE WORKERS AND RELATED OCCUPATIONS (elec. power)

Supervises and coordinates activities of workers engaged in constructing, testing, maintaining and repairing facilities for transmission and distribution of electric power, (Unit Group 8731).

DPT: 1 3 8

8730-118 FOREMAN/WOMAN, TELEPHONE AND TELEGRAPH INSTALLATION (telecom.)

Supervises and coordinates activities of workers engaged in erecting, installing and repairing overhead and underground telephone and telegraph lines and associated equipment to provide communication, detection, and signalling services (Unit Group 8735).

DPT: 1 3 8

8730-122 SUPERVISOR, ELECTRIC-POWER INSPECTORS AND TESTERS (elec. power)

Supervises and coordinates activities of inspectors and testers engaged in quality control activities related to the erection, installation, and repair of equipment for electrical power generation, transmission and distribution; and wiring in buildings and wire-communications services, (Unit Group 8736).

DPT: 1 3 8

8730-199 OTHER FOREMEN/WOMEN, ELECTRICAL POWER, LIGHTING AND WIRE COMMUNICATIONS EQUIPMENT ERECTING, INSTALLING AND REPAIRING

This residual group includes electrical power, lighting and wire communications foremen/women not presently classified in Unit Group 8730.

8731-ELECTRICAL POWER LINE WORKERS AND RELATED OCCUPATIONS

This unit group includes occupations concerned with constructing and maintaining power lines and associated equipment used for generating, transmitting and distributing electric energy. Activities include: constructing, erecting, repairing, replacing and maintaining power transmission lines, underground conduits and cables and accessories. Wire communication line workers are classified in Unit Group 8735, WIRE COMMUNICATIONS AND RELATED EQUIPMENT INSTALLING AND REPAIRING OCCUPATIONS.

8731-110 LINE MAINTAINER, EMERGENCY SERVICE (elec. power)

Locates source of electric power disturbance or failure and replaces or repairs defective power lines and accessories:

Proceeds to troubled sector as directed by dispatcher or accompanies line crew in service vehicle. Tests power lines and auxiliary equipment to identify defective voltage regulators, transformers, switches, and related accessories, using direct reading and electrical test instruments. Climbs poles or towers using climbing gear, or enters bucket attached to aerial lift boom to reach power lines. Opens switches to de-energize circuit to facilitate repairs or remove electrical hazards. Repairs or replaces conductors, switches, transformers, fuses and related equipment, using precautionary work methods and insulated tools, ladders, and platforms when working on or near energized circuits. Connects and disconnects service drops between power line and consumer when necessary. Locates and corrects electrical trouble in street-light and building circuits if required.

GED: 4 SVP: 8 PA: H 2 3 4 5 6 7 EC: O 6 DPT: 2 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	3	3	<u>3</u>	3	4	<u>2</u>	<u>3</u>	<u>3</u>	<u>2</u>	4			1 9	0 Y 8

8731-111 LINE-MAINTAINER APPRENTICE (elec. power)

Performs duties of line maintainers such as 8731-110 LINE MAINTAINER, EMERGENCY SERVICE (elec. power), 8731-114 LINE REPAIRER (elec. power), 8731-118 LINE MAINTAINER (elec. power) and 8731-122 CABLE INSTALLER - REPAIRER (elec. power) on a progressive basis according to a training schedule.

8731-114 LINE REPAIRER (elec. power)

Repairs and replaces transmission and distribution power lines: Climbs pole or tower using climbing gear or stands in work bucket attached to aerial lift, to install new or repair broken or defective overhead wires, pole hardware, transformers, lightning arrestors, fuses and other auxiliary equipment, using hand tools. Secures new wires to cross-arm insulators and splices wire to adjoining sections of line to complete circuit. Removes wires from defective poles and attaches to poles erected by ground workers. Suspends insulated ladders and platforms from pole crossarms, and covers energized lines with rubber mats to facilitate safe handling of high-voltage lines without interrupting service by power shut-off. Repairs and replaces underground wiring or installations as required.

GED: 4 SVP: 7 PA: H 2 3 4 7 EC: O 6 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	<u>3</u>	3	4	<u>2</u>	<u>3</u>	<u>3</u>	<u>2</u>	4			1 9	0 Y 8

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8731-118 LINE MAINTAINER (elec. power)

Constructs and maintains network of overhead and underground power lines used to conduct electricity from generating plants to consumers:

Studies engineering drawings to determine type and location of installation. Directs and assists in attaching crossarms, insulators, lightning arrestors, switches, wire conductors and auxiliary equipment to poles preparatory to erection. Directs and assists in erection of steel, wood or concrete poles or towers and adjustment of guy wires. Ascends poles or towers to install additional equipment, such as insulators, switches, crossarms and transformers, using hydraulic bucket or spurs and safety belt, and hand tools. Lays bed of sand in trench and positions plastic duct in trench for underground cable and backfills and tamps when completed. Strings conductor wires and cables between poles, assisted by ground crew or pulls cables through ducts. Adjusts slack in conductors between poles depending on type of conductor and temperature conditions, using winch. Splices, solders, and insulates conductors and related wiring to connect elements of power network. Secures conductors to insulators, using clamps or tie wires. Runs service lines from street lines to buildings and connects to service entrance. Installs and connects street lighting to poles. Cuts trees and brush endangering new or existing lines using ax or chain saw. Inspects, tests, repairs or replaces, defective or broken wires, poles, hardware and auxiliary equipment using hand and power tools and special equipment.

GED: 4 SVP: 7 PA: H 2 3 4 5 6 7 EC: O 6 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	<u>3</u>	4	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>2</u>	4			1 9	0 Y 8

8731-122 CABLE INSTALLER - REPAIRER (elec. power)

Installs and repairs underground conduit and cable systems and related equipment used to conduct electric power:

Installs conduit, using hydraulic bender to shape metal-type conduit to fit contours of surface to which it is to be attached. Pulls wires or cables through conduit, using iron rod or flexible steel ribbon. Repairs breaks in cable by jointing, splicing, bonding and racking, and connects to transmission line using splicing machine, bolts and hand tools. Wraps electric cables located in manholes and vaults with fireproofing materials. Replaces worn cables, wires or insulation. Installs or replaces transformers, switches, relays, fuse boxes and other electrical equipment in manholes and underground substations. Tests electrical cables and equipment wiring to detect broken circuits or improper connections, using wiring diagrams, test lamp, and other electrical-test instruments. Tests for presence of gas in underground installations using gas detector.

GED: 4 SVP: 7 PA: M 2 3 4 5 6 7 EC: B 6 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	<u>3</u>	3	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	4			1 9	0 Y 8

8731-126 LINE MAINTAINER, STREET RAILWAY (rail trans.)

Installs, inspects, and maintains street-railway power lines and related equipment, working as crew member:

Drives electric service tram or work truck equipped with hoist to transport material to worksite. Installs, repairs and replaces poles,

feeder cables, trolley wires and supports, switches and related equipment, following drawings and manuals, using truck-mounted hoist, ropes, wire cutters, pliers, and other line worker's equipment. Installs track-bonding cable, using electric drill or welding machine. Cuts faulty sections from overhead wires, and splices in new wires, anchoring severed ends with block and tackle. Adjusts sag in power lines and support cables, using winch, wire stretcher, and hand tools. Inspects and tests electrical installations and connections using electrical test devices. Installs running boards that carry trolley wires under overhead crossings by clamping boards to beams or girders.

GED: 4 SVP: 7 PA: H 2 3 4 5 6 7 8 EC: O 6 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	<u>3</u>	3	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>2</u>	4			1 9	0 Y 8

8731-134 CABLE INSTALLER - REPAIRER HELPER (elec. power)

Assists in installing and repairing underground conduit and cable systems:

Loads and unloads cable, tent, soldering equipment and other material and tools. Erects barriers around manholes or open cuts. Removes and replaces manhole covers using prying tools, assisted by other workers. Lowers tools and other equipment into manhole using ropes and pulleys. Pulls wire or cable through conduit using iron rod or flexible steel ribbon. Prepares sealing material solder and plastic tape for use by cable worker. Assists in splicing and connecting electrical service lines underground or to customer's service line. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 3 PA: H 2 3 4 7 EC: B 6 DPT: 6 8 7

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	<u>4</u>	4	5	<u>4</u>	4	<u>3</u>	4	5			1 3 9	2 3

8731-199 OTHER ELECTRICAL POWERLINE WORKERS AND RELATED OCCUPATIONS

This residual group includes electrical powerline workers and related occupations not presently classified in Unit Group 8731.

8733-CONSTRUCTION ELECTRICIANS AND REPAIR WORKERS

This unit group includes occupations concerned with installing and repairing wiring for the distribution of electrical power in buildings and ships. Activities include: laying out, assembling, installing and maintaining electrical wiring and related equipment in houses, industrial and commercial establishments and ships, installing lighting fixtures, air conditioning equipment, conduit, junction boxes, meters circuit protecting devices and associated equipment. Occupations concerned with installing and repairing electrical machinery, appliances and apparatus, and directly associated wiring are classified in Unit Group 8533, ELECTRICAL AND RELATED EQUIPMENT INSTALLING AND REPAIRING OCCUPATIONS, N.E.C.

8733-110 MARINE ELECTRICIAN (ship & boat bldg.)

Installs, tests and repairs electrical wiring, fixtures and equipment aboard ship:

Examines drawings and specifications to determine wiring layout. Secures conduit or cable trays to bulkhead with mounting hardware, using hand tools. Pulls cable through conduit or along trays and secures cable to trays with fastening devices. Terminates cable at junction boxes, circuit breakers or panels, as specified in engineering drawings. Strips insulation from wire ends and secures terminals using hand tools and soldering equipment or crimping device. Connects wiring and cable assemblies to lights, motors, power supplies, communication and radar equipment. Tests electrical, static and operating characteristics or circuits and equipment by making continuity, insulation and voltage tests, using electrical-test equipment. Makes circuit changes or adjustments to correct discrepancies. Fabricates and installs instrument panels, using hand tools. Repairs and replaces defective electric motors and other equipment.

GED: 4 SVP: 8 PA: M 2 3 4 5 7 EC: I 5 6 DPT: 2 6 1

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	3	3	3	3	4	3	3	3	3	4			9	1	0		Y	0

8733-111 MARINE-ELECTRICIAN APPRENTICE (ship & boat bldg.)

Performs duties of 8733-110 MARINE ELECTRICIAN (ship & boat bldg.) on a progressive basis according to a training schedule.

8733-114 AIR-CONDITIONING MECHANIC COMMERCIAL (mech. equip., n.e.c.)

Installs, services and repairs air-conditioner units and systems in commercial establishments, residential and office buildings:

Mounts compressor and condenser units at specified locations, according to blueprints and verbal instructions, using material-handling equipment. Installs evaporator units in cabinets or in air ducts using hand tools. Measures walls and ceiling to determine positioning of pipes using measuring tape, and marks positions as specified, using marking crayon. Erects scaffolding using hand tools. Bends, cuts and threads pipes and ducts using crimping machine, snips and other equipment. Attaches piping to refrigeration units using sleeves, couplings or unions, and solders joints to form complete circulatory system for refrigerant. Installs air and water filters and electrical wiring to compressor and circulatory fans. Tests lines to detect leaks and adjusts controls for optimum performance. Repairs faulty units by replacing or repairing controls, electric wiring or other parts.

GED: 4 SVP: 7 PA: M 2 3 4 5 7 EC: B 6 DPT: 2 6 1

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	3	3	3	3	4	3	4	3	4	3	3	4	9	1	0		0	Y

8733-118 TROUBLE SHOOTER, ELECTRICAL SERVICE (elec. power)

Locates cause of defective electric service on customer's premises and repairs wiring and connections:

Reviews trouble reports to diagnose problems and reasons for recurring problems. Selects and loads wiring and testing equipment and tools into truck. Examines interior wiring, switches, fuses, light sockets

and connections to appliances and tests system with ammeter, voltmeter, and other electrical test instruments to detect defects or irregularities. Repairs malfunctions by replacing faulty fuses, switches and wiring and making adjustments to appliances. Tests line voltage using voltmeter to determine if overload or underload is causing trouble, and recommends changes to correct problem. Examines and repairs defective lines or cables from hydro pole or other distribution point to consumer's premises. Refers major breaks to line repair crews. Examines electric circuit on customer's premises following completion of repairs to ensure safe, efficient electric power service. Prepares report of findings and recommends corrective action to improve service to customers.

GED: 4 SVP: 7 PA: L 2 3 4 5 6 7 EC: B 6 DPT: 2 6 1

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	3	3	3	3	4	3	3	3	3	4			9	1			Y	0

8733-122 ELECTRICIAN (construction)

Lays out, assembles, installs and repairs electrical wiring in houses, industrial and commercial establishments and other buildings:

Plans layout of wiring system in accordance with drawings, wiring codes and other specifications. Positions and installs distribution boards, fuse panels and switches, lights and junction and outlet boxes. Installs sheathed cable using power drill and hand tools. Measures, cuts, bends, threads, assembles and installs conduit using hacksaw, pipe cutter and threader, conduit bender and other hand tools. Threads and pulls wire through conduit and holes in floors and walls. Splices wires by stripping insulation from terminal leads with knife and pliers, twisting or soldering wires together, and applying tape or terminal caps. Connects ends of installed wire to circuit breakers, transformers, and other components to form complete circuit. Secures wiring, fixtures and related equipment using hand tools and devices such as clips, staples, hangers and brackets. Repairs, installs and connects switches, lighting fixtures, generators, electric motors, grounding lines and other items. Connects system to electric power supply. Installs diesel motors and batteries for emergency backup power. Tests continuity of circuit to ensure electrical compatibility and safety of all components using ohmmeter, oscilloscope and other electrical test equipment.

GED: 4 SVP: 7 PA: M 2 3 4 5 7 EC: B 6 DPT: 2 6 1

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	3	3	3	3	4	3	3	3	3	4			9	1	0		Y	0

8733-123 ELECTRICIAN APPRENTICE (construction)

Performs duties of 8733-122 ELECTRICIAN (construction) on a progressive basis according to a training schedule.

8733-130 ELECTRIC-METER INSTALLER (elec. power)

Installs, removes, and inspects electric power meters in customer's premises or power-line poles to record consumption of electric power: Bolts crosspiece, hanger and meter conduit to wall or pole using drill, hand tools, and hydraulic lift bucket or ladder. Fastens electric meter to wall or pole using screws or bolts. Connects and insulates wires

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according to specifications and drawings using hand tools. Locks meter with wire and seal to deter tampering. Installs small current transformers and makes connections to meter. Turns knob on demand meters to set mechanism. Disconnects wires, seal, and fasteners to remove or replace meter. Records readings when installing or removing meter. Notifies line worker to connect incoming power line to installation. Inspects, tests and repairs meters using test lamp, voltmeter, ammeter and hand tools.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: B 6 DPT: 3 6 1

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	3	3	<u>3</u>	<u>3</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	4	4			9	1		Y	0	

8733-135 AUTOMATIC-DOOR SERVICER (construction)

Installs and services opening and closing mechanisms of automatic door systems used in department stores and similar establishments: Measures area and marks installation positions for treadle and photoelectric eye trigger mechanism. Cuts holes in floors, walls and doorway using power saw and drill. Installs treadle using chisel, hammer, bolts, wrench, screwdriver and screws. Installs photoelectric eye or other device for actuating door mechanism using soldering gun and power scissors. Wires system to control switch, electric eye and electric panel, using pliers, hacksaw, pipe cutter and threader. Fits and attaches pre-hinged doors using hand tools. Tests treadle and electric eye by triggering opening mechanism. Secures installation with rubber mats or carpet and strips of chrome, using electric screwdriver. Repairs and replaces faulty wiring and parts, using power scissors, test instruments and hand tools.

GED: 3 SVP: 6 PA: H 3 4 7 EC: B 6 DPT: 2 8 1

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	4	<u>3</u>	<u>4</u>	<u>3</u>	4	5			9	1	0	0	Y	

8733-136 RESIDENTIAL-CONSTRUCTION WIRER (construction)

Lays out, assembles and installs electrical wiring, fixtures and control equipment in residential construction: Examines blueprints and plans layout of wiring system. Measures and marks position of all electrical installations, using tape measure and marking devices such as chalk, pencil or crayon. Drills holes through floors, walls, studs or joists and threads electric wires through to connect all components in wiring system. Positions and installs switch and outlet boxes, circuit-breaker panel, fuse panel, meter box and main switch, using hand tools. Connects ends of installed wires to circuit breakers, transformers and other components to complete circuit. Calls for inspection of wiring system by government inspector. Affixes cover plates to electrical switch and outlet boxes. Installs light fixtures using pliers, screw driver, electrician's tape and wire connectors.

GED: 3 SVP: 6 PA: M 2 3 4 7 EC: I 6 DPT: 3 8 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	3	<u>3</u>	<u>4</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	3	4			9	1	0	Y	0	

8733-138 AIR CONDITIONING-MECHANIC HELPER, COMMERCIAL (mech. equip., n.e.c.)

Helps install, service and repair air-conditioning units and equipment in office buildings and commercial establishments:

Assists in gathering and loading tools, thermostats and equipment required by air-conditioner mechanic. Erects ladders and scaffolds and moves equipment as directed. Assists in positioning and mounting compressor and condenser units and affixing nuts and washers, using wrench. Drills holes, cuts and threads pipes, secures refrigerant piping with clamps and braces, tightens nuts and bolts, and holds equipment as directed using power drill and hand tools. Assists in electrical wiring, and installing thermostats and controls, using welding torch, soldering iron and hand tools. Installs new filters as directed, or removes and cleans filters using vacuum cleaner and water hose. See also definition for term title, 02-160 HELPER (any ind.)

GED: 3 SVP: 4 PA: H 2 3 4 EC: B 6 DPT: 6 8 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	5	<u>4</u>	<u>4</u>	5	<u>4</u>	<u>4</u>	<u>3</u>	4	5			1	3	9	2	Y	

8733-142 MARINE-ELECTRICIAN HELPER (ship & boat bldg.)

Helps install and repair wiring, equipment and fixtures aboard ship in drydock:

Supplies electrician with materials and tools. Measures, cuts, bends and threads conduit and cable, using saw, threader and other hand tools. Fabricates conduit support brackets from strap iron stock, using hand tools. Removes insulation from wires, using stripping tools. Crawls in tunnels or passages aboard ship to guide or thread wires through pre-drilled holes. Lays cable trays and places and secures wire in trays. Installs and packs bulkhead glands, deck tubes and terminal tubes with packing compound to make pressure-proof and watertight. Helps make continuity tests using test equipment. See also definition for term title, 02-160 HELPER (any ind.)

GED: 3 SVP: 4 PA: H 2 3 4 7 EC: I 5 6 DPT: 6 8 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	4	<u>4</u>	<u>4</u>	5	<u>4</u>	<u>4</u>	<u>3</u>	3	4			9	1	3	2	Y	

8733-199 OTHER CONSTRUCTION ELECTRICIANS AND REPAIRERS

This residual group includes construction electricians and repairers not presently classified in Unit Group 8733.

8735-WIRE COMMUNICATIONS AND RELATED EQUIPMENT INSTALLING AND REPAIRING OCCUPATIONS

This unit group includes occupations concerned with erecting, installing, servicing and repairing overhead and underground telephone and telegraph lines and related equipment in central installations or place of use to provide voice and telegraph communications and services such as television relays, data transmission facilities, and protective-signalling

systems. Occupations concerned with fabricating and assembling this equipment are classified in Minor Group 853, FABRICATING, ASSEMBLING, INSTALLING AND REPAIRING OCCUPATIONS: ELECTRICAL, ELECTRONIC AND RELATED EQUIPMENT. Electrical power line workers are classified in Unip Group 8731, ELECTRICAL POWER LINE WORKERS AND RELATED OCCUPATIONS.

8735-110 CENTRAL-OFFICE-EQUIPMENT REPAIRER (telecom.)

Installs, tests and repairs telephone circuits and equipment in telephone company central office:
Examines drawings and wiring diagrams to determine system layout. Locates electrical and mechanical faults in telephone circuits and equipment, using voltmeter, resistance meter, watt meter, capacity meter and other testing devices. Repairs, replaces or adjusts faulty wiring, switches, relays, amplifiers and other equipment, using soldering equipment, and hand tools. Connects or disconnects wires to terminals of wired distributing frames, according to diagrams, and solders connections. Rebuilds generators, voltage regulators, batteries and other equipment, using replacement parts. Maintains telephone switching equipment in private establishments such as hotels and office buildings as required.

GED: 4 SVP: 7 PA: M 2 3 4 5 6 7 EC: I 6 DPT: 2 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	1 9	0 Y

8735-114 RURAL-TELEPHONE MAINTAINER (telecom.)

Performs combined duties of telephone installation, maintenance, and repair in rural areas where individual specialized workers are not available:

Installs, repairs and removes telephone lines, poles, cross arms, and other telephone equipment, using hydraulic lift bucket, climbing gear and tools [8735-138 LINE-INSTALLER-REPAIRER (telecom.)] Installs, repairs and removes central office equipment at small exchanges [8735-110 CENTRAL-OFFICE-EQUIPMENT REPAIRER (telecom.)] Assembles telephone equipment on subscriber's premises, mounts brackets, and connects colour-coded wire leads [8735-162 TELEPHONE-STATION INSTALLER (telecom.)] and [8735-158 PRIVATE-BRANCH-EXCHANGE INSTALLER (telecom.)] Tests, analyses, repairs or replaces faulty telephone equipment [8735-126 TELEPHONE-STATION REPAIRER (telecom.)] Advises customers regarding availability of additional telephone services and equipment.

GED: 4 SVP: 7 PA: M 2 3 4 5 6 7 EC: B 6 DPT: 2 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	1 9 0	1 0 Y

8735-118 ELECTRICIAN, COMMUNICATIONS EQUIPMENT (electric, equip.; telecom.)

Installs and repairs intercommunication systems, switchboards, time clocks, telephone, and other communications equipment:
Installs equipment as indicated on plans or as requested by customer, utilizing knowledge of codes and theory and application of equipment and using power drill and other hand tools. Connects units to inside service wires according to wiring diagram, using power drill, soldering equipment and other hand tools. Installs and repairs outside service lines or cables to in-ground terminal box, or to utility pole, using climbing equipment or hydraulic lift bucket and hand tools. Analyzes operational malfunctioning of equipment with electric and electronic test equipment to locate source of malfunction and determine extent of repairs. Examines mechanisms and repairs or replaces parts, wires, switches, relay circuits and signalling units, using test equipment and hand tools. Operates, tests and adjusts equipment to ensure proper operation.

GED: 4 SVP: 7 PA: M 2 3 4 5 6 7 EC: B 6 DPT: 2 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	1 9	0 Y

8735-122 PRIVATE-BRANCH-EXCHANGE REPAIRER (telecom.)

Installs and repairs customer telephone switchboards and specialized communications equipment:

Analyzes defects in switchboards, intercommunications systems, telephoto circuits, teletypewriters, mobile radio-telephones and data transmission facilities, using drawings and knowledge of electric circuits. Locates and repairs malfunctions using hand tools and test equipment such as ohmmeter, voltmeter and ammeter. Installs switchboards and other communications equipment on subscriber's premises.

GED: 4 SVP: 7 PA: M 2 3 4 5 6 7 EC: I 6 DPT: 2 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	1 9	0 Y 1

8735-126 STATION REPAIRER (telecom.)

Analyzes, locates and repairs malfunctions in installed telephones, related cable terminals and inside and outside wiring:

Locates and analyzes telephone malfunctions in wires and related telecommunications equipment, using ohmmeter, voltmeter and other test equipment. Repairs, replaces or adjusts faulty equipment according to diagrams and standard procedures, using soldering equipment and other hand tools. Enters vaults, crawl spaces or buildings to replace and rearrange faulty wiring or equipment. Climbs ladders and utility poles using climbing gear, or uses hydraulic lift bucket to reach and make repairs to outside wiring. Tests, adjusts and rewires telephone equipment in shop using test equipment and hand tools.

GED: 4 SVP: 7 PA: L 2 3 4 5 6 7 EC: B 6 DPT: 2 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	1 9 0	0 Y

8735-130 SIGNAL MAINTAINER (rail trans.)

Repairs and maintains electric gate crossings, signals and signal equipment within division of railroad system:

Drives truck along track route and stops to inspect gate crossings, track switches, interlocks, hotbox detectors and related signal equipment. Tests electrical units and signal circuit connections, using standard electrical test equipment. Replaces defective wiring, broken lenses or burned-out light bulbs, and cleans lenses of lamps with cloths and solvent. Tightens loose bolts on crossing gates using wrench. Lubricates moving parts on gate-crossing mechanism and on swinging signals. Opens and closes gate to test circuits and connections. Tests and maintains intercommunications systems. Compiles reports indicating location of track inspected, repairs made and equipment requiring replacement.

GED: 4 SVP: 7 PA: L 2 3 4 7 EC: O 6 DPT: 2 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>4</u>			1 9	0 Y

8735-134 TELEGRAPH-EQUIPMENT REPAIRER (telecom.)

Analyzes and repairs defects in telegraph transmitting, receiving and switching equipment:

Tests and adjusts equipment according to drawings and specifications, using voltmeters, ohmmeters, signal generators and other test equipment. Examines wiring, bearings, brackets, and other parts for wear and damage. Cleans mechanical and electrical parts, and paints assembly. Replaces worn or malfunctioning parts, using soldering iron and hand tools, and tests and adjusts equipment to specified operating standards. Packs and unpacks equipment for repair and maintains inventory and record of repairs.

GED: 4 SVP: 7 PA: M 3 4 7 EC: I 6 DPT: 2 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>			1 9 0	0 Y 1

8735-136 CABLE INSTALLER (telecom.)

Installs, replaces or repairs telephone and telecommunications cables: Examines drawings and specifications to determine location of equipment, type and size of cable, and position of cable terminals. Enters tunnels or vaults, and climbs poles to attach outside cable, using climbing equipment and hydraulic lift bucket. Strings cable from pole to building. Pulls cable through underground channels, using winches and other tools and equipment. Installs supports and hardware and cuts holes through walls or partitions, using power drill and hand tools. Splices cables and connects to terminals, using hacksaw, knife, soldering equipment, metal clips and hand tools. Wraps connections with insulating material. Tests installation to verify accuracy of connections, using voltmeters, ohmmeters, and other testing techniques.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: B 6 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>4</u>	<u>4</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>4</u>			1 9	0 Y

8735-138 LINE INSTALLER-REPAIRER (telecom.)

Installs, repairs, and maintains telephone and telecommunication transmission and distribution lines:

Studies engineering drawings and specifications to determine wiring layout and work to be done. Drives truck to job site and operates truck-mounted attachments such as auger and hydraulic lift bucket. Assists in erection of poles and towers and adjustment of guy wires. Enters tunnels, vaults, and manholes and climbs poles to cut in feeder lines, attach appliances, such as terminal boxes and repeaters, and repair or replace defective lines and auxiliary equipment. Unreels and strings lines from pole to pole and from pole to building and installs conduits, insulators, and other hardware. Pulls lines through ducts by hand or using winch. Repairs and replaces faulty wiring and equipment using soldering equipment and hand tools.

GED: 4 SVP: 7 PA: M 2 3 4 5 6 7 EC: B 6 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>2</u>	<u>4</u>			1 9 0	0 Y

8735-142 PROTECTIVE-SIGNAL SERVICER (telecom.)

Installs, replaces or repairs electrical protective-signalling systems such as fire and burglar alarms:

Studies building plans and premises and advises customer of most efficient type of installation for protection requested. Erects and installs wiring, conduits, boxes, and signal equipment, following drawings of system layout and using ladders, power drill, soldering equipment and hand tools. Connects and solders colour-coded wires to contact points of equipment such as sensors and alarms, using hand tools and soldering gun. Checks circuits of installation to verify accuracy of assembly using circuit drawings and test instruments such as voltmeter and ohmmeter. Sets up and checks alarm controls and signal transmission to prepare system for operation. Carries out periodic inspections and adjusts or repairs equipment to maintain alarm system at specified level of operating efficiency.

GED: 4 SVP: 6 PA: M 2 3 4 5 6 7 EC: I 6 DPT: 2 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>			1 9 0	0 Y

8735-146 REPAIRER, SHOP (telecom.)

Repairs, tests and modifies telephone and telegraphic equipment such as telephones, teletypewriters, and switchboards:

Adjusts component parts of equipment such as dials, coin tracks, springs and relays to conform to specifications, and replaces worn or malfunctioning parts. Verifies wiring and location of parts, using schematic drawings. Rewires and modifies equipment in accordance with engineering changes and traffic-handling requirements. Tests and calibrates reassembled equipment, using test devices such as ohmmeters. Cleans instruments and parts, using solvents, air hose and cloths. Prepares records of parts used and instruments and equipment repaired.

GED: 4 SVP: 6 PA: M 4 7 EC: I 6 DPT: 2 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>5</u>	<u>3</u>			1 9 0	0 Y 1

8735-154 CENTRAL-OFFICE-EQUIPMENT INSTALLER (telecom.)

Installs, wires, tests and adjusts switching and dialing equipment in central office of telephone company:

Examines drawings, specifications and work site to determine position and connections for equipment to be installed. Measures and marks reference points to lay out installation. Erects frame of platform for equipment, using power and hand tools. Positions switching and power apparatus according to floor plans, using chain hoist. Attaches outgoing and incoming telephone trunk lines and cables to central office equipment, following wiring diagrams and using soldering equipment and hand tools. Tests and adjusts equipment after installation to ensure operation to specified standard, using electrical and electronic test equipment.

GED: 4 SVP: 6 PA: M 2 3 4 5 6 7 EC: I 6 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	3	3	4	3	3	3	3	3				
											1	9	0 Y	

8735-158 PRIVATE-BRANCH-EXCHANGE INSTALLER (telecom.)

Installs telephone switchboards and specialized communication equipment:

Determines layout for intercommunications systems, telephoto circuits, mobile radiotelephones, teletypewriters and other equipment on customer's premises, according to specifications and drawings. Positions equipment in specified locations, using power drill and other hand tools. Connects telephone or telegraph cable terminals to inside wires and switchboard, following wiring diagrams and colour-coded wire, using soldering equipment, ladder and hand tools. Tests installed equipment, using voltmeter, ammeter, and other electrical test devices and makes adjustments to attain optimum operating efficiency.

GED: 4 SVP: 6 PA: H 2 3 4 5 6 7 EC: I 6 7 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	3	3	4	3	3	3	4	3				
											1	9	0 Y	

8735-162 TELEPHONE-STATION INSTALLER (telecom.)

Installs telephone station equipment such as private and public telephones and key-switching equipment:

Inspects customer's premises to determine best location and method of installation. Climbs poles or ladders or uses hydraulic lift bucket to attach outside wires. Connects telephone cable terminals with inside wires, using drop (outside) wire and clamps. Assembles equipment on premises and installs related inside wiring according to diagrams, using hand tools. Tests and adjusts installation to ensure maximum operating efficiency.

GED: 4 SVP: 6 PA: M 2 3 4 5 6 7 EC: B 6 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	3	3	4	3	3	3	3	3				
											1	9	0 Y	

8735-166 TELECOMMUNICATIONS-EQUIPMENT INSTALLER (telecom.)

Installs and maintains teletype transmitters, receivers and related equipment in telecommunications offices and on customer's premises: Consults specifications and drawings and inspects premises to determine location and method of installation. Installs teletypewriters, tickers, facsimile-recording devices and other equipment, using power drill and hand tools. Erects wiring conduits and boxes, using drill, clamps, screwdriver and pliers. Strings and pulls wire through conduit. Connects wires to equipment and power supply, using soldering equipment and hand tools. Tests equipment for circuit continuity, according to technical manuals, using voltmeter, ohmmeter, distortion meter and other electrical test equipment. Repairs telecommunications equipment in response to service calls and carries out regular maintenance of equipment at designated intervals.

GED: 4 SVP: 6 PA: M 2 3 4 7 EC: I 6 DPT: 3 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	3	3	4	3	3	3	3	3				
											1	9	0 Y	

8735-170 CABLE-TELEVISION INSTALLER (telecom.)

Installs and repairs cables carrying television signals in family dwellings and commercial buildings:

Interviews customer to determine desired location of cable-television outlets in building. Enters tunnels and vaults, or climbs poles to install or repair feeder line and appliances, using climbing equipment and hand tools. Installs conduit or insulators and other hardware, using power drill and hand tools. Strings feeder lines from pole or vault to television receiver. Joins cables by splicing, soldering or clamping to complete circuit to television receivers. Repairs or replaces cables, amplifiers, and other equipment. Tests and adjusts completed installation for optimum performance. Installs and maintains wiring and equipment at cable-television remote receiver site. Maintains records of repairs and installations.

GED: 3 SVP: 6 PA: M 2 3 4 7 EC: B 6 DPT: 3 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	3	4	4	3	3	3	3	4				
											9	1	0 Y	

8735-174 TELEPHONE-FACILITIES EVALUATOR (telecom.)

Examines telephone field installations and facilities to determine whether additional telephone service can be provided:

Reviews drawings of existing layout and climbs ladder or pole to examine terminal boxes for available connections. Marks drawings to designate cables available for use. Calls at customers' establishments to arrange for new installations such as telephone lines and telephone booths. Investigates requests for additional telephone services, and prepares work orders to provide required facilities.

GED: 3 SVP: 5 PA: L 2 4 5 6 7 EC: O 6 DPT: 3 6 7

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	3	3	3	4	4	4	4	3	4				
											1	9	Y 0	

8735-182 FRAME WIRER, TELEPHONES (telecom.)

Connects and tests wires from telephone lines and cables to distributing frames in telephone company central office: Studies drawings to determine circuits to be connected or disconnected, according to written instructions. Selects, and connects wires to terminals of distributing frames, to complete circuit for customer telephone service, using soldering equipment and hand tools. Tests cable connections to determine proper functioning, using test cabinet and head set. Removes and remakes connections to change circuit layouts. Installs and removes outside service wires at cables terminals incident to new plant construction operations as required.

GED: 3 SVP: 6 PA: M 2 3 4 5 6 EC: I 6 DPT: 6 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	<u>3</u>	<u>3</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	4	3			1 9	0 Y

8735-186 PROTECTIVE-SIGNAL-SERVICER HELPER (telecom.)

Helps install, replace or repair protective signalling systems such as fire and burglar alarms:

Helps install conduits and boxes, using drill, clamps and hand tools. Tapes special metallic strips to glass in doors and windows which triggers alarm system when broken. Strings and pulls wires through conduits. Fastens and solders wires to contact points, using pliers and soldering gun. Helps test, calibrate and adjust system and alarm controls after installation. Examines installation for loose or broken wires or insulation, faulty switches or other defects and makes adjustments or repairs to maintain or restore service. See also definition for term title, 02-160 HELPER (any ind.).

GED: 3 SVP: 4 PA: M 2 3 4 7 EC: I 6 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	<u>4</u>	<u>3</u>	4	<u>3</u>	<u>4</u>	<u>3</u>	4	4			1 9 3	Y 2

8735-199 OTHER WIRE COMMUNICATIONS AND RELATED EQUIPMENT INSTALLING AND REPAIRING OCCUPATIONS

This residual group includes wire communications and related equipment installing and repairing workers not presently classified in Unit Group 8735.

8736-INSPECTING AND TESTING OCCUPATIONS: ELECTRICAL POWER, LIGHTING AND WIRE COMMUNICATIONS EQUIPMENT ERECTING, INSTALLING AND REPAIRING

This unit group includes occupations in inspecting and testing work as described under the term titles, 02-170 INSPECTOR (any ind.) and 02-430 TESTER (any ind.), concerned

with quality-control activities in erecting, installing, and repairing equipment for generating, transmitting and distributing electrical power; wiring in buildings; and wire-communications services.

8736-110 ELECTRICAL-WIRING INSPECTOR (construction; gov. serv.; elec. power)

Inspects new or modified electrical wiring or equipment installations in structures to ensure conformance to safety standards:

Provides technical assistance to owners, contractors and electricians in planning electrical installations that will satisfy requirements of federal, provincial or municipal regulations and electric-power company. Approves plan of electrical diagrams for new buildings before issuance of permits. Examines electric wiring installations visually and using electrical test instruments, to determine if such items as wiring, insulations, grounding, cut-out relays and other protective devices have been installed in accordance with safety requirements. Ensures that materials used in installation have been approved by Canadian Standards Association. Approves installation, if wiring meets requirements, or lists discrepancies for rectification. Performs follow-up inspections of rejected wiring installations to ensure that discrepancies have been corrected before approval. Examines wiring in premises damaged by fire to determine cause. Inspects electrical equipment or wiring reported as a fire hazard due to faulty installation, and initiates action to have discrepancies corrected.

GED: 4 SVP: 8 PA: L 2 3 4 5 6 7 EC: B 6 DPT: 2 6 7

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	3	<u>3</u>	<u>3</u>	4	4	4	4	4	4			9 1	9 0 Y 1

8736-114 CABLE TESTER (telecom.)

Tests insulated wires in aerial, underground or submarine multiple-conductor communications cables to determine continuity, insulation and loading:

Receives directions from test-desk operator concerning approximate location of suspected malfunction in communications cable. Drives service vehicle along cable route, climbs ladders, poles, sits in cable bucket or enters vaults or manholes to gain access to cables. Attaches instruments, such as capacity and resistance bridges, and pressure gauge, to cable to test cable's continuity, insulation, capacity, imbalance and other features. Reports malfunctions to central office for correction by repair crews. Tests cable, as required, at central location before installation by line crew, using portable test head-set.

GED: 4 SVP: 7 PA: M 4 5 6 7 EC: B 6 DPT: 3 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	3	<u>3</u>	4	<u>4</u>	4	<u>4</u>	4	<u>4</u>	4		9 1	0 Y

8736-122 METER TESTER (elec. power)

Tests accuracy of meters used for recording electric power consumption and makes necessary adjustments:

Connects meter to test panel for comparison testing. Pushes switch and allows needle on standard to revolve specified number of turns, or for limited, timed period. Compares meter and standard calibrated

dials to determine accuracy of meter. Connects stroboscope to meter under test and adjusts it to meet the standard recorded on digital counter. Sets up and maintains test boards used to test functions and accuracy of meters. Adjusts test panel controls and observes dials to determine if reactions of meter under test are correct, and turns set screws to correct deviations. Examines gear meshing operation and tightens or loosens screws to make adjustments. Removes meter from test panel and connects to registered checking device to determine whether dials are registering power consumption correctly. Cleans mechanisms with solution, brush or compressed air, when required.

GED: 4 SVP: 7 PA: L 4 7 EC: I DPT: 3 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	3	4	3	4	4	4	4	5	4			1 9	0 Y

8736-126 TESTER AND REGULATOR (telecom.)

Tests, maintains and repairs electrical and mechanical equipment (other than automatic or manual transmitting and receiving equipment) in telecommunication central office:

Tests and maintains common office telecommunication equipment, such as clocks, repeaters, carriers, voice frequency carrier telegraphs, switching apparatus and power supplies, using hand and power tools and test equipment. Inspects installed equipment to ensure government standards are adhered to and tests for circuit continuity and operational performance, using test devices such as ohmmeter, voltmeter, frequency counter, and distortion-measuring and error-detecting equipment. Adjusts equipment to specified standards.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: I 6 DPT: 3 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	3	3	4	3	3	3	5	4			1 9	0 Y 1

8736-130 EXCHANGE TESTER (telecom.)

Locates malfunctions in telephone and telegraph lines, using switchboard composed of electrical test instruments, and notifies maintenance crew to repair malfunction:

Receives complaint calls from subscribers, using telephone switchboard jack and headset at test desk. Tests lines to determine cause and location of malfunction, using switchboard equipped with audible and visual alarms, and electrical testing devices such as voltmeter and resistance meter. Maintains records and reports nature and location of trouble conditions to inside and outside maintenance crews and coordinates their actions to restore service. Contacts subscribers to arrange service calls. Analyzes trouble trends or diagnoses recurring problems using knowledge of telephone apparatus, outside plant, and central office circuitry. Recommends corrective action to provide better service to customers.

GED: 4 SVP: 6 PA: S 4 5 6 EC: I DPT: 2 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	3	3	4	3	4	3	5	4			1 9	0 Y

8736-134 ELECTRICAL-TESTING TECHNICIAN (elec. power)

Tests electric power lines and related equipment to determine conditions affecting the flow of electric power to consumers:

Inspects and tests cable sheaths located underground, or in service ducts. Conducts duct surveys, spot voltage recordings and earth-current measurements to determine loss of power through corrosion and electrolytic conditions, using voltmeter, ammeter, and other electrical test devices. Examines wiring and corrosion-protection devices visually to ensure installation is in accordance with specifications. Performs high-voltage proof testing of insulation of power lines and related equipment such as power transformers, generators and circuit breakers. Inspects feeder voltage-regulator equipment, analyzes recordings, and adjusts regulators to maintain correct voltage output in system. Investigates customer complaints and requests for advice regarding load demand and power variations. Maintains records, makes computations, plots graphs, analyzes results, and writes reports.

GED: 4 SVP: 6 PA: M 3 4 5 6 7 EC: B 6 DPT: 2 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	3	3	3	3	3	3	4				9 1	0 Y 8

8736-138 TERMINAL AND REPEATER TESTER (telecom.)

Tests and adjusts telephone and telegraph repeaters and terminal apparatus to maintain continuity of service:

Operates testboard (switchboard composed of testing equipment) and other testing devices to trace and diagnose wiring and circuit deficiencies between stations. Replaces, adjusts, calibrates or modifies repeaters, relays, switches, and other equipment, according to specifications, using power and hand tools. Communicates with other telephone and telegraph offices using telephone, teletype or telex equipment to transmit information, such as urgent repairs to system. Cleans and lubricates equipment.

GED: 4 SVP: 6 PA: M 4 5 6 7 EC: I DPT: 2 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	3	3	4	3	3	3	4	4			1 9	0 Y

8736-142 TRANSMISSION TESTER (telecom.)

Tests telephone equipment in telephone office that services lines extending between communities:

Tests equipment, using voltmeter, ammeters, transmission measuring sets, impedance bridges and other electrical-measuring devices. Connects broadcasting equipment into telephone circuits to prepare them for radio and television services. Maintains records of time spent on telephone circuits by customers.

GED: 4 SVP: 6 PA: L 4 5 6 7 EC: I DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	3	3	4	3	4	3	5	4			1 9	0 Y

8736-160 POWERLINE PATROLLER (elec. power)

Patrols overhead electric power lines to identify damaged or defective power line equipment and facilities:

Patrols powerlines on foot, by automobile, snowmobile, boat, aircraft, or other means of transportation. Pulls on guy wires to detect slack or looseness. Observes condition of crossarms, insulators, transformers, switches, pole hardware, and overhead conductors, using binoculars to detect evidence of deterioration, storm damage, and vandalism. Radios or phones dispatch office to report power line damage and to advise on emergency switching of power between lines, according to knowledge of local demands and system capabilities. Prepares periodic reports.

GED: 3 SVP: 6 PA: M 4 5 6 7 EC: O 6 DPT: 3 6 3

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	4	<u>3</u>	<u>3</u>	4	4	4	4	4	4			1	3			3	Y

8736-199 OTHER INSPECTING AND TESTING OCCUPATIONS, ELECTRICAL POWER, LIGHTING AND WIRE COMMUNICATIONS EQUIPMENT ERECTING, INSTALLING AND REPAIRING

This residual group includes electrical power, lighting and wire communications equipment inspectors and testers not presently classified in Unit Group 8736.

8738-OCCUPATIONS IN LABOURING AND OTHER ELEMENTAL WORK: ELECTRICAL POWER LIGHTING AND WIRE COMMUNICATIONS EQUIPMENT ERECTING, INSTALLING AND REPAIRING

This unit group includes occupations in labouring or other elemental work, as described under the term title, 02-190 LABOURER/ELEMENTAL WORKER (any ind.), which are concerned with erecting, installing and repairing electrical power, lighting and wire communications equipment.

8738-110 LABOURER, ELECTRIC POWER AND WIRE COMMUNICATIONS (elec. power; telecom.)

Assists in erecting, installing and repairing electrical power, lighting and wire communication equipment:

Loads and unloads materials, tools and equipment. Places barricades and warning signs at work locations to protect workers and public from injury. Rigs scaffolds and hoists to form work platform and lift supplies. Digs trenches, places shoring, and lowers tools and materials to workmen in excavations and vaults. Hammers stakes into ground to indicate right-of-way. Breaks up concrete, using airhammer. Bores into base of wooden poles to check for decay. Brushes creosote on underground portions of transmission poles. Helps skilled workers dismantle and assemble equipment. Cuts and trims trees and brush along right-of-way, using axe and chain saw. Piles and burns brush. Signals drivers, using hand or flag to direct flow of traffic around work site.

GED: 1 SVP: 2 PA: H 2 3 4 EC: B 5 6 DPT: 6 8 7

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	5	4	4	5	<u>3</u>	4	<u>4</u>	<u>4</u>	5			1	3			2	3

8738-199 MISCELLANEOUS OCCUPATIONS IN LABOURING AND OTHER ELEMENTAL WORK: ELECTRIC POWER AND WIRE COMMUNICATIONS EQUIPMENT ERECTING, INSTALLING AND REPAIRING

This residual group includes electric power and wire communications equipment erecting, installing and repairing labourers and other elemental workers not presently classified in Unit Group 8738.

8739-ELECTRICAL POWER, LIGHTING AND WIRE COMMUNICATIONS EQUIPMENT ERECTING, INSTALLING AND REPAIRING OCCUPATIONS, N.E.C.

This unit group includes occupations not elsewhere classified, concerned with erecting, installing and repairing electrical power, lighting and wire communications equipment. Activities include: servicing street lights; trimming trees; installing poles, splicing multi-conductor cables; and erecting neon signs.

8739-110 ELECTRICIAN, POWERHOUSE (elec. power)

Repairs and maintains electrical equipment in generating station or powerhouse:

Tests defective equipment to determine cause of malfunction or failure by referring to circuit diagrams, and using voltmeters, ammeters and related electrical testing apparatus. Notifies power engineer and central switchboard personnel of equipment shut-down time to avoid interruption in supply of power to users. Repairs and replaces equipment such as relays, switches, supervisory controls and indicating and recording devices. Tests and repairs switchboard and equipment circuitry, interpreting wiring diagrams to trace and connect numerous wires carrying current for independent functions. Cleans and repairs brushes, commutators, windings, and bearings of generators, motors and converters, using cleaning fluid, air pressure gun, abrasive cloth and hand and power tools.

GED: 4 SVP: 7 PA: M 2 3 4 5 6 7 EC: B 5 6 DPT: 2 6 1

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
<u>3</u>	3	3	<u>3</u>	<u>3</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	4	4			9	1	0		0	Y

8739-114 CIRCUIT-BREAKER MECHANIC (elec. power)

Repairs and maintains oil or air circuit breakers:

Dismantles circuit breakers, using hand and power tools and block and tackle to separate parts of large breakers. Opens valve of circuit-breaker tank to drain oil into storage tank or release air. Cleans inside of tank and parts using solvent, brush and cloth, climbing into larger

tanks with ladder. Examines parts for defects visually and by using micrometer. Replaces worn or defective parts and reassembles breaker. Polishes oxidized contact points with abrasive cloth to ensure proper electrical contact. Tests dielectric strength of oil by passing electric current through oil sample in metal box containing two electrodes. Refills tank with oil or air. Test-operates circuit-breaker to check timing of opening and closing cycle and adjusts mechanism to specifications. Dismantles, cleans and repairs circuit-breaker driving mechanism.

GED: 4 SVP: 7 PA: M 2 4 7 EC: B 6 DPT: 2 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>			1 9	0 Y

8739-118 ELECTRICIAN, SUBSTATION (elec. power)

Inspects, tests and maintains substation electrical equipment such as circuit breakers and transformers:
 Inspects and tests equipment to detect malfunctioning and determine resistance and load, using voltmeter and ammeter. Tests for power leakage and calculates voltage drop in insulators using test equipment. Tests oil in circuit breakers and transformers for dielectric strength. Inspects switches before repairing or replacing equipment to ensure equipment is de-energized. Examines and repairs circuit breakers and transformers, and rebuilds lightning arrestors by replacing worn parts. Disconnects voltage regulator for removal and connects replacement regulator to high-voltage line. Replenishes oil in circuit breakers and transformers when necessary. Repairs or replaces equipment such as generator sets, switchgear, circuitry and driving motors as necessary. Controls generation and distribution of electrical power from in-plant substation supplying power to plant facilities such as rolling mills or machine shops, if required.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: B 6 DPT: 2 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>4</u>			1 9 0	0 Y

8739-122 ELECTRIC-METER REPAIRER (elec. power)

Inspects, repairs, and adjusts electric meters used for recording electric current consumption:
 Dismantles defective meters using screwdrivers, wrenches and other hand tools. Examines various parts of meter for wear and checks for warped or bent parts, using straightedge. Immerses sensitive parts of meter mechanism in cleaning solution to remove dirt. Removes dirt from insensitive meter parts, using brushes, cloths, air hose and cleaning solution. Reassembles meter, replacing defective parts with new or reconditioned parts. Tests meters for accuracy, proper assembly and dielectric strength, using special measuring devices and adjusts meters within specified tolerances. Paints unit if required, using brush. Repairs clock-like registering device of demand meters. Repairs electric components such as instrument transformers and relays, if required. Installs, tests and maintains meters at customer site, as required.

GED: 4 SVP: 7 PA: L 4 7 EC: I 6 DPT: 2 8 1

APT.													INT.	TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>5</u>	<u>4</u>			1 9	0 Y

8739-126 RELAY TESTER-REPAIRER (elec. power)

Tests, adjusts, maintains, and repairs relays controlling electrical apparatus for transmission and distribution of electric power:
 Connects test apparatus to relay circuits and adjusts controls to simulate operating conditions. Observes ammeters, voltmeters, and related recording instruments, and interprets electrical diagrams to analyze cause of malfunction and locate defective relay. Opens and closes switches to isolate defective relay, and adjusts screws, loose bolts, springs and electrical connections to correct malfunction. Replaces faulty relay, using block and tackle, soldering equipment, and power and hand tools. Dismantles, cleans and rebuilds unserviceable relays using replacement parts, hand tools and brush. Adjusts sensitive electrical, thermal and timing elements to calibrate relay according to installation specifications. Tests repaired relays to ensure conformance to operating specifications.

GED: 4 SVP: 7 PA: L 4 7 EC: I 6 DPT: 2 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>5</u>	<u>4</u>			1 9	0 Y

8739-130 CABLE SPLICER (elec. power; telecom.)

Splices overhead, underground or submarine multi-conductor cables used in telephone and telegraph communication and electric power transmission systems:
 Climbs utility poles or towers or descends into underground vaults where cables are located. Cuts lead sheath from installed cable to gain access to cable connections, using hacksaw or cable knife. Cuts and peels insulation from cables and conductors preparatory to splicing. Tests each conductor to prevent incorrect connections between individual communication circuits or electric power circuits, using test telephone. Cleans, tins and splices corresponding conductors and solders or clamps each connection. Dries out and wraps joints with insulating material. Covers insulated joints with lead or polyethylene sleeves, and connects these to cable sheathing to produce moisture-proof joint. Places and fixes jointed cables in junction boxes and fills them with pitch or other compound. Connects ends of conductors to numbered terminals. Tests conductor wire for defects. Installs relay to control oil or air pressure inside multi-conductor cables sheathing. Pumps oil into cable or introduces nitrogen gas into cable until specified pressure is reached. Tests cable periodically and adds oil or gas to maintain pressure level.

GED: 4 SVP: 7 PA: L 2 3 4 5 6 7 EC: B 6 7 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>			1 9	0 Y

8739-134 POWER-TRANSFORMER REPAIRER (elec. power)

Repairs extra-high voltage electric power transformers used in generating, transmitting and distributing electricity:
 Drains and filters transformer oil into container. Loosens bolts to free transformer cover plate, laminations, coils, and other parts, using hand and power tools. Signals crane operator or manipulates hoisting devices to move heavy transformer components and sub-assemblies to repair area. Dismantles lamination assembly preparatory to cleaning and inspecting. Examines coil and records information required for

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rewinding coil, such as weight, number of winds (turns), size of wire, and coil connections. Secures data card to defective coil, and sends coil to appropriate area for rewinding. Cleans transformer case using solvents, scraper, steel wool, air hose and cloth. Examines transformer case for defects such as cracked weldments. Reassembles transformer in accordance with specifications, using new or reconditioned parts. Refills transformer's oil reservoir using vacuum pump.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: I 4 7 DPT: 3 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	<u>3</u>	<u>3</u>	4	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	4			1 9	0 Y

8739-138 TRANSFORMER REPAIRER (elec. power)

Repairs low and high voltage electric-power transformers: Moves transformer to repair area, using hoist. Determines cause of failure, using insulation and continuity testers. Drains oil from transformer and removes tank cover. Unbolts or cuts transformer coil leads using wrench or wire cutters. Removes core assembly from tank and removes laminations from core, using block and tackle. Cleans transformer tank, tank cover and insulators, using heated solvents or steam hose and dries them with air pressure or cloths. Inspects transformer tank for defects and tests insulators, using insulation tester. Reassembles transformer and replaces parts such as pumps, radiators and bushings using welding equipment and hand and power tools. Lowers transformer core assembly into tank. Brazes or swages wire to insulators and tap-switch terminals, using welding and swaging equipment and tightens fastening devices to secure core assembly. Replaces and bolts lid on tank, using wrenches. Fills oil reservoir to prescribed level, using hose or vacuum pump.

GED: 4 SVP: 7 PA: L 3 4 7 EC: I 4 7 DPT: 3 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	<u>3</u>	<u>3</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	4			1 9	0 Y

8739-142 STREET-LIGHT SERVICER (elec. power)

Maintains and repairs mercury-vapour, fluorescent, electric arc or incandescent street lights:

Climbs ladder or stands in tower-truck bucket to reach lamp. Tests circuits and electric components to locate grounded wires, broken connections, or defective current-control mechanisms, using electrical test instruments. Replaces blown fuses and bulbs, faulty mercury ballasts, photoelectric timers, refractors and reflectors, electrodes, and wires, using electricians' hand tools. Repairs, tests and adjusts street-light components in repair shops when necessary.

GED: 4 SVP: 6 PA: L 2 4 7 EC: O 6 DPT: 3 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	<u>3</u>	<u>3</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	3			1 9	0 Y

8739-146 SALVAGE REPAIRER (elec. power)

Reconditions equipment used in electric-power system and rebuilds parts considered salvageable such as circuit breakers and lightning arrestors:

Removes bolts, screws and other fasteners to dismantle salvage material, using hand and power tools. Examines parts and discards those considered beyond repair. Cleans and polishes salvageable parts, using solvents, scraper and buffing wheel. Repaints components exposed to weather. Replaces damaged wires and insulation on lightning arrestors. Replaces broken porcelain insulating parts to rebuild circuit breakers and other protective devices. Reconditions related electric-power system equipment such as fuses, wires, wire clamps and conduit fittings.

GED: 4 SVP: 6 PA: M 3 4 7 EC: I 6 7 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	<u>3</u>	<u>3</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	4			1 9	0 Y

8739-150 NEON-SIGN ERECTOR (construction)

Erects neon and plastic signs and supporting structures on building facades, roofs or other locations:

Studies specifications to obtain sign size, location and structural materials required for erection. Selects and loads sign and materials onto flat-deck truck or boom truck, using dolly, crane or by hand for transportation to worksite. Measures sign location and marks points where holes are to be drilled. Drills holes for anchor bolts. Drives expansion shields into drilled holes with hammer to receive lag bolts. Lifts and positions sign against building facade using hydraulic boom or block and tackle. Aligns and levels sign and secures with lag screws, metal wall plates and guy wires. Builds support structures and erects rooftop signs on buildings using welding equipment and hand tools. Positions and aligns free-standing pole signs on concrete bases, using hydraulic boom. Fastens pole to concrete base with set screws, bolts or clamps. Makes minor electrical connections to illuminate signs. Dismantles signs and supporting structures and relocates advertising-display signs as specified.

GED: 3 SVP: 6 PA: M 2 3 4 EC: O 6 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	<u>3</u>	<u>3</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	4			1 9 0	0 Y

8739-152 TRAFFIC-LIGHT INSTALLER (elec. power)

Installs and maintains vehicle and pedestrian traffic signal hardware such as poles, pole extension arms and beacon units:

Lifts, positions, and bolts pole to concrete base, and attaches extension arm to pole, using hydraulic lift and hand tools. Attaches beacon unit to pole or pole extension arm and aligns unit, using wrench and level. Attaches power box to pole and splices cable in box to connect electric wiring on pole with power source, using electricians' hand tools. Installs electric control box to regulate timing of lights. Clamps and connects pedestrian walk-lights to pole when required. Installs and connects push button control units to regulate lights at pedestrian crossing, if required. Replaces burnt fuses and bulbs, cleans, re-aligns and replaces head units, and erects fallen poles. Installs overhead beacons and signs at pedestrian cross-walks.

GED: 3 SVP: 6 PA: H 2 3 4 7 EC: O 6 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	<u>3</u>	<u>3</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	4			1 9	0 Y

8739-154 VOLTAGE-REGULATOR MAINTAINER (elec. power)

Inspects and maintains voltage regulators used to supply constant voltage in electric power distribution systems:

Examines and tests voltage regulators to determine malfunction, using electrical-test instruments. Replaces defective parts, such as motors, gears and shafts, and tightens connections, using power and hand tools. Adjusts shaft clearances, using micrometer. Cleans and oils moving parts of regulator and changes oil in motor-bearing housings. Files contact points to remove carbon and provide smooth surface for electrical contact. Clips voltmeter to regulator and records voltage on inspection report. Sends defective motors and parts to repair shop. Sets up regulator to deliver specified constant voltage to avoid interruption in service when removing motor for repair.

GED: 3 SVP: 6 PA: M 3 4 7 EC: I 6 DPT: 3 8 1

APT.											INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	3	3	4	3	3	3	4	4	1 9		0 Y	

8739-158 CABLE-SPLICER HELPER (elec. power; telecom.)

Helps to splice overhead, underground or submarine multi-conductor cables used in telephone and telegraph communication and electric-power-transmission systems:

Loads truck with equipment and drives to work area. Erects canvas or plastic tent, barricades or safety cones around worksite. Opens underground vaults and entrances to manholes. Hangs splicers' platform in position, or makes arrangements for truck-operated aerial bucket to reach overhead work areas. Assembles tools, equipment and supplies in position for splicing operations. Peels insulation from cables preparatory to splicing, using knife. Tends small gasoline engine to pump water from underground conduit tunnels, or to supply fresh air to other workers in tunnel or vault. Cuts lead, plastic or other material to form insulating sleeves for cable joints. Tends gasoline heater to melt lead, resin compound or other materials used to insulate joints. Lifts and places cable joints into position for splicing. Affixes cables on poles, towers or in tunnel racks and trays, using hand tools. Dries out wet cables. See also definition for term title, 02-160 HELPER (any ind.).

GED: 3 SVP: 5 PA: M 2 3 4 7 EC: B 6 7 DPT: 6 8 4

APT.											INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	4	4	4	5	4	4	3	4	1 3		2 3 Y	

8739-162 ELECTRICIAN HELPER POWERHOUSE (construction; elec. power)

Assists electrical workers in the installation, maintenance, and repair of electric power generation and distribution equipment, underground cables, and related facilities:

Positions reels of electric cable near trench or manhole. Pulls electric cable through ducts for communications, signal and electrical power systems. Helps move heavy machine parts, using block and tackle, to assist in assembly and repair of generators, converters, switchgear, and related equipment at generating station or substation. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 3 PA: H 2 3 4 EC: B 6 DPT: 6 8 4

APT.											INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	4	4	5	4	4	3	4	5	3 1		2 3	

8739-166 GROUND WORKER (elec. power; telecom.)

Assists in erection of utility poles and installation and repair of overhead power lines and communication lines:

Digs holes in areas inaccessible to truck-mounted earth boring machine. Fastens cross arms and hardware to poles before erection. Raises tools and equipment to other crew members working overhead on poles or towers, using block and tackle. Fills and tamps ground or concrete around base of poles. Stretches and fastens guy wires to ground anchors, using hand tools. Pulls slack from wires to assist overhead crew workers with installation of wires, using block and tackle. Trims trees, and clears brush from utility line right-of-way.

GED: 2 SVP: 3 PA: H 3 4 5 6 7 EC: O 6 DPT: 6 8 7

APT.											INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	4	4	5	4	4	4	3	5	3 1		2 3	

8739-170 TREE TRIMMER (elec. power; telecom.)

Trims trees to clear right-of-way for communication and electric power lines to minimize storm and short-circuit hazards:

Climbs trees to reach branches interfering with wires and transmission towers, using climbing equipment. Prunes treetops and branches, using saws and pruning shears. Trims damaged trees and paints stumps to prevent bleeding of sap. Removes broken limbs from wires, using extension pole. Fells trees interfering with power service, using chainsaw. Works from bucket of extended truck boom to reach branches, as required.

GED: 2 SVP: 3 PA: M 2 4 EC: O 4 6 DPT: 6 8 7

APT.											INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	4	4	5	4	4	3	3	5	3 1		2 3	

8739-174 UTILITY-POLE INSTALLER (elec. power)

Installs wooden, concrete or metal poles to support power lines and fixtures such as street lights and traffic signals:

Guides wooden or concrete pole into hole, or metal post into position on previously installed base, as pole is lowered by truck-mounted hoist. Sights metal pole against previously installed poles or uses carpenter's level, and inserts shims under pole until it is vertical. Tightens bolts to secure metal pole to base, using wrench. Backfills hole around wooden or concrete poles and tamps surface or mixes and pours concrete around pole base to anchor pole firmly. Raises tools and equipment to crew members working overhead on poles, using block and tackle if required.

GED: 2 SVP: 2 PA: M 4 EC: O DPT: 6 8 7

APT.											INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	4	4	5	4	4	3	4	5	1 3		2 3 Y	

8739-199 OTHER INSTALLERS AND REPAIRERS, ELECTRIC POWER AND WIRE COMMUNICATIONS EQUIPMENT

This residual group includes electric power, lighting and wire communications equipment installing and repairing workers that cannot be classified elsewhere in Minor Group 873.

878/879 – OTHER CONSTRUCTION TRADES OCCUPATIONS

This minor group includes occupations concerned with constructing, renovating and maintaining buildings and other works. Activities include: pouring concrete; erecting structures; plastering; brickwork; carpentry; painting; glazing; applying insulation, roofing and waterproofing materials; and installing plumbing, heating and similar equipment. These occupations are classified in the following unit groups:

- 8780** Foremen/women, Other Construction Trades Occupations
- 8781** Carpenters and Related Occupations
- 8782** Brick and Stone Masons and Tile Setters
- 8783** Concrete Finishing and Related Occupations
- 8784** Plasterers and Related Occupations
- 8785** Painters, Paperhangers and Related Occupations
- 8786** Insulating Occupations, Construction
- 8787** Roofing, Waterproofing and Related Occupations
- 8791** Pipefitting, Plumbing and Related Occupations, n.e.c.
- 8793** Structural-Metal Erectors
- 8795** Glaziers
- 8796** Inspecting and Testing Occupations, Construction, Except Electrical
- 8798** Occupations in Labouring and Other Elemental Work, Other Construction Trades
- 8799** Other Construction Trades Occupations, n.e.c.

8780-FOREMEN/WOMEN, OTHER CONSTRUCTION TRADES OCCUPATIONS

This unit group includes occupations, as described under the master title, 01-250 SUPERVISOR; FOREMAN/WOMAN (any ind.), concerned with supervising and coordinating activities of workers engaged in erecting, repairing, maintaining and inspecting buildings, dams, pipelines, storage tanks and similar structures.

8780-110 FOREMAN/WOMAN, BRICK AND STONE MASONS AND TILE SETTERS (construction)

Supervises and coordinates activities of workers engaged in preparing and laying brick, structural tile, ceramic, artificial and natural stone, and blocks of concrete, glass and related materials, (Unit Group 8782).

DPT: 1 3 8

8780-114 FOREMAN/WOMAN, CARPENTERS AND RELATED WORKERS (construction)

Supervises and coordinates activities of workers engaged in constructing and renovating wooden structures, and installing fixtures, (Unit Group 8781).

DPT: 1 3 8

8780-118 FOREMAN/WOMAN, CONCRETE FINISHERS AND RELATED WORKERS (construction)

Supervises and coordinates activities of workers concerned with pouring and casting concrete, levelling and smoothing cement and finishing similar surfaces, including laying and polishing terrazzo floors, (Unit Group 8783).

DPT: 1 3 8

8780-122 FOREMAN/WOMAN, CONSTRUCTION INSPECTORS (construction)

Supervises and coordinates activities of workers concerned with quality control in the construction and maintenance of structures such as buildings, bridges, dams, highways and pipelines, excluding electric power, light, and wire communication facilities, (Unit Group 8796).

DPT: 1 3 8

8780-126 FOREMAN/WOMAN, GLAZIERS (construction)

Supervises and coordinates activities of workers engaged in cutting, fitting and installing glass in buildings and furniture, (Unit Group 8795).

DPT: 1 3 8

8780-130 FOREMAN/WOMAN, INSULATORS (construction)

Supervises and coordinates activities of workers concerned with applying thermal and acoustic insulating materials to buildings, underground wires and cables and heating, cooling or similar equipment, (Unit Group 8786).

DPT: 1 3 8

8780-134 FOREMAN/WOMAN, LABOURERS AND OTHER ELEMENTAL WORKERS (construction)

Supervises and coordinates activities of construction workers engaged in labouring and elemental work such as erecting, repairing, maintaining and wrecking buildings and other structures, (Unit Group 8798).

DPT: 1 3 8

8780-138 FOREMAN/WOMAN, PAINTERS, PAPERHANGERS AND RELATED WORKERS (construction)

Supervises and coordinates activities of workers applying paint and related materials to the exterior and interior of buildings and other structures, and applying wallpaper and fabrics to walls and ceilings, (Unit Group 8785).

DPT: 1 3 8

8780-142 FOREMAN/WOMAN, PLASTERERS AND RELATED WORKERS (construction)

Supervises and coordinates activities of workers engaged in applying lath, plaster, stucco and related materials to walls and ceilings, and erecting and finishing dry walls, (Unit Group 8784).

DPT: 1 3 8

8780-146 FOREMAN/WOMAN, PIPE FITTERS, PLUMBERS AND RELATED WORKERS (construction)

Supervises and coordinates activities of workers engaged in installing and repairing pipelines, plumbing, sprinkler systems and related equipment for water, gas, steam, sewage or other systems, (Unit Group 8791).

DPT: 1 3 8

8780-150 FOREMAN/WOMAN, STRUCTURAL-METAL ERECTORS (construction)

Supervises and coordinates activities of workers engaged in raising, positioning and joining prefabricated metal members and parts, and placing reinforcing iron rod and metal mesh, to form or repair metal frameworks for buildings, bridges, tanks, derricks and other works, (Unit Group 8793).

DPT: 1 3 8

8780-154 FOREMAN/WOMAN, ROOFERS, WATERPROOFERS AND RELATED WORKERS (construction)

Supervises and coordinates activities of workers engaged in covering roofs and other exterior surfaces of structures with weatherproof materials such as asphalt and roofing paper, metal sheathing, shingles and other materials; installing flashing, eavestroughing and vents; and applying caulking and waterproofing compounds to structures, (Unit Group 8787).

DPT: 1 3 8

8780-155 FOREMAN/WOMAN, ELEVATOR CONSTRUCTION (construction)

Supervises and coordinates activities of workers engaged in installation of electric and hydraulic freight and passenger elevators, escalators, and dumb-waiters:

Performs duties as described under master title, 01-250 SUPERVISOR; FOREMAN/WOMAN (any ind.). Examines specifications to determine equipment and tooling required. Arranges work aids such as hoists, slings, scaffolds and ladders to provide work platform and to lift material. Supervises erection of temporary barriers such as guard rails, planking, plywood or mesh to protect open shafts of escalators or elevators. Directs crews installing components such as guide rails in elevator shaft, pulleys, elevator car frame and platform and counter-weights. Coordinates activities of workers connecting entire assembly including lift cables, wiring, and electrical control apparatus. Tests and adjusts completed installation to ensure safe, efficient operation according to specifications. Arranges for inspection and certification of installation by municipal and provincial authorities. Directs crews in maintenance and repair of elevators and escalators according to schedule or in response to calls for emergency repair service.

GED: 4 SVP: 8 PA: L 2 3 5 6 7 EC: I 6 DPT: 1 3 8

APT.											INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C		
<u>3</u>	<u>3</u>	4	3	4	4	4	4	4	5	5	5 9	4 5 0

8780-156 SERVICE SUPERVISOR, HOUSING (construction)

Inspects contractor-built homes at designated intervals after customer occupancy to identify areas requiring service, and supervises workers carrying out repair work:

Performs duties as described under master title, 01-250 SUPERVISOR; FOREMAN/WOMAN (any ind.). Examines home to determine any construction faults, and listens to complaints from customer to promote and preserve good customer/management relations. Verifies validity of customer's dissatisfaction, and notes and records complaints, and areas requiring re-construction or repair. Prepares work orders and schedules emergency and service work. Assigns and supervises work of carpenters, labourers and sub-trade personnel. Maintains records of service costs to ensure that work is kept within budgeted allowance. Writes and submits reports on damaged homes, poor workmanship, and use of sub-standard materials in construction. Repairs and makes minor adjustments to customer's dwelling, using hand and power tools if required.

GED: 4 SVP: 7 PA: L 5 6 EC: B 6 DPT: 1 3 4

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APT.											INT.	TEMP.			
G	V	N	S	P	Q	K	F	M	E	C					
<u>3</u>	<u>3</u>	4	4	4	4	4	4	4	5	5	5	9	4	5	0

8780-157 BUILDING-MAINTENANCE SUPERVISOR (construction)

Supervises and coordinates activities of workers engaged in the maintenance, repair and alteration of public and commercial buildings, such as offices, museums, schools, apartment houses, town houses, and garden homes:

Performs duties as described under master title, 01-250 SUPERVISOR; FOREMAN/WOMAN (any ind.). Prepares maintenance program for installed mechanical and electrical equipment using equipment operating and inspection reports, and preventive maintenance recommendations of equipment manufacturers. Directs workers engaged in performing maintenance and making structural repairs to masonry, woodwork and furnishings of buildings. Directs workers in maintaining and repairing building utility systems, such as electrical wiring and controls, plumbing, heating, and air conditioning. Determines need for contracting work beyond the scope of regular trades staff. Inspects completed work to ensure conformity to specifications and municipal or provincial building codes. Assists in preparation of annual budget estimate for building repair, maintenance or alteration. Prepares reports for control and record purposes. Supervises workers engaged in cleaning buildings and maintaining grounds, when required.

GED: 4 SVP: 7 PA: L 4 5 6 EC: B DPT: 1 3 8

APT.											INT.	TEMP.				
G	V	N	S	P	Q	K	F	M	E	C						
<u>3</u>	<u>3</u>	<u>3</u>	4	4	4	4	4	4	5	5	5	9	4	5	0	1

8780-158 BUILDING MOVER (construction)

Supervises and coordinates the activities of workers engaged in the removal of buildings from one site to another:

Performs duties as described under master title, 01-250 SUPERVISOR; FOREMAN/WOMAN (any ind.) applying specialized knowledge of building moving. Confers with city and highway officials to obtain permit to move building, provision of traffic police escort and to arrange for temporary removal of overhead wire obstructions. Oversees workers preparing building for removal, such as cutting structure into sections, placing support beams and rollers, dollies, cable and tow bar. Directs tow-vehicle operator in moving building to new location and placing it in position on new site.

GED: 3 SVP: 7 PA: L 5 6 7 EC: O 6 DPT: 1 3 8

APT.											INT.	TEMP.			
G	V	N	S	P	Q	K	F	M	E	C					
<u>3</u>	<u>3</u>	4	3	4	4	4	4	4	4	5	5	9	4	5	0

8780-199 MISCELLANEOUS FOREMEN/WOMEN, OTHER CONSTRUCTION WORKERS

This residual group includes other construction trades foremen/women not presently classified in Unit Group 8780.

8781-CARPENTERS AND RELATED OCCUPATIONS

This unit group includes occupations concerned with constructing, renovating and maintaining wooden structures and installing fixtures. Activities include: sawing, grooving, planing or sanding materials by hand or machine; assembling or fastening parts together; erecting structures and installing prefabricated items such as windows, doors and kitchen and bathroom units. Ship's carpenters are classified in Unit Group 9155, DECK CREW, SHIP.

8781-110 CARPENTER (construction)

Constructs, erects, installs, renovates and repairs structures and fixtures of wood, plywood, wallboard or related materials:

Reads blueprints, drawings or sketches to determine materials required, dimensional qualifications and installation procedures. Selects specified type of lumber or other materials. Prepares layouts using carpenter's square, rule, calipers and chalk line. Marks cutting and assembly lines on materials, using pencil, chalk and marking gauge. Cuts and shapes materials with hand and power tools, such as saws, planes and sanders. Assembles cut and shaped parts using nails, screws, bolts, dowel pins, clamps and adhesives. Erects framework and lays subflooring for new structures and additions or extensions to old structures. Verifies trueness of structures using plumb line, level and laser beam. Rips out and removes parts of existing structures such as walls, ceilings, cabinets, washroom fixtures, floors and roofs, using wrecking bar and hand tools. Arranges sub-contracts for installations or repairs of electrical wiring, heating system, plumbing, and stone and brickwork in structures being renovated, if required. Builds and installs stairs, stair railings, platforms, partitions, room dividers, cabinets, counters, shelves and built-in-units to hold equipment, using woodworking machines and hand and power tools. Applies dry wall, plaster and insulating materials to walls and ceilings. Lays and replaces hardwood, parquet and wood-strip-block floors, using nails, adhesives and sanders in custom-built establishments. Nails, staples and glues shock-absorbing, sound-deadening and decorative panels to ceilings and walls. Fits and installs prefabricated kitchen and bathroom units, trusses, window frames, doors, door frames, overhead garage doors, interior and exterior finish trim and hardware. Covers outside walls with materials such as bevelled siding, shingles, brick veneer, stone or vertical battens, using adhesives, drills, hammers and nails. Shingles roofs as required. Performs miscellaneous tasks such as erecting scaffolding and steel studding; constructing forms for concrete structures; installing batterboards, building outlines and building supports for existing buildings; and mixing and pouring concrete when required. Directs other workers when necessary.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: B 6 DPT: 3 6 1

APT.											INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C		
3	3	<u>3</u>	<u>3</u>	3	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	4	1 9 0	0 Y

8781-111 CARPENTER APPRENTICE (construction)

Performs duties of 8781-110 CARPENTER (construction) on a progressive basis according to a training schedule.

8781-113 STAIR BUILDER (construction; woodworking)

Constructs wooden interior stairways of various types such as standard, winding and spiral, on job site or in shop: Studies plans and specifications, takes measurements and discusses stairway layout with builder to determine construction and material requirements. Prepares master drawings of stairway from rough sketches and notes. Selects, glues and clamps lumber and other materials, as required, to enlarge or laminate stock. Lays out cutting lines on wood stock using hand tools such as tape measure, square, marker and compass or templates. Sets up and operates power tools such as saws, planers, routers, drills and shapers to cut and shape wood stock to prescribed form and dimensions. Steams, bends and clamps wooden parts to form curved stairway components when required. Assembles stairway pieces such as risers, treads, stringers and railings and attaches them with fastening devices such as nails, screws, dowel pins, wedges, glue and clamps. Sands stairway parts to required finish, manually or using power sander. Fits, nails and screws prefabricated stair and railing assembly in place.

GED: 4 SVP: 7 PA: M 3 4 7 EC: I 5 6 7 DPT: 3 8 1

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
3	3	3	3	3	4	3	3	3	3	4	0 Y

8781-114 CARPENTER, MAINTENANCE (construction)

Repairs and constructs wooden structures in mills, mines, hotels, plants or other establishments: Reads blueprints, drawings and rough sketches to determine work specifications or follows oral instructions. Builds, repairs and installs structural items such as scaffolding, shoring, bracing, concrete forms, rough platforms, stairs, floors, partitions, suspended ceilings, drywall, building framework and trim, using carpenter's hand and power tools. Constructs bookcases, shelves, cabinets, tables and chairs, and fabricates various items or gadgets required in establishment, with hand and power tools. Replaces miscellaneous items such as roof shingles, gutters, drain spouts, ceiling, floor and wall coverings, window shades, curtain rods, locks and hinges, using adhesives, hand and power tools. Installs glass in windows, doors and partitions using glass cutters, putty, or rubber spline. Mixes and pours concrete to construct or repair sewers, floors, sidewalks, steps and foundations. Paints, stains or oils furniture and other structures, using sanders, fillers, brushes, rollers, and spray gun. Cleans and maintains carpenter's tools and equipment.

GED: 3 SVP: 7 PA: M 2 3 4 7 EC: B 6 DPT: 3 6 1

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
3	3	3	3	3	4	3	3	3	3	4	0 Y

8781-115 RAISED-ACCESS-FLOOR-SYSTEMS INSTALLER (construction)

Installs raised access floor systems to accommodate underfloor electrical and mechanical services in establishments such as convention centres, offices, department stores, hospitals, laboratories, schools, radio and television studios, and telephone and communication centres: Studies specifications and work site to determine layout and installation procedures. Prepares layouts using carpenter's square, tape measure, level, chalk and string lines, or laser beam. Positions and bolts metal pedestals at designated intervals on floor. Bolts or screws grid

runners or rigid grid system in place. Cuts runners to desired lengths with cutters or saws, as required. Determines grid alignment with level or laser beam. Adjusts pedestals to proper height, using wrench. Places rubber pads on top of pedestals and grid runners to provide sound dampening and air sealing qualities to finished floor. Measures and cuts metal access floor panels to fit around corners and obstacles, using tape measure and saw. Bolts and screws or lays floor panels on grids, using hand tools or suction lift tool. Cuts access holes in panels for cables or wiring, using hand or power saw. Measures, cuts and cements vinyl baseboard mouldings around perimeter of floor, using hand tools and adhesives. Fits and screws metal thresholds at junction of raised floors in doorways. Fits, bolts and screws prefabricated ramps, stairs and hand-rails leading to raised floors, as required.

GED: 3 SVP: 7 PA: M 3 4 7 EC: I 6 DPT: 3 8 1

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
3	3	3	3	3	4	3	3	3	4	4	0 Y

8781-116 INTERIOR TRIMMER (construction)

Constructs and/or installs finishing items in interior of residential buildings such as doors, stairs, cabinets, vanities, moulding and hardware: Studies plans and specifications to determine details of work to be performed. Inspects building interior to ensure that dry-wall and framing work is complete and does minor preparatory work such as re-nailing sub-floor and adjusting window operations. Measures, cuts and nails underlay plywood over sub-floor, using hand and power tools. Installs door frames using tools and materials such as level, square, fasteners and shims, ensuring that frames are perfectly square. Cuts, fits and installs closet shelves. Fits and hangs all interior doors such as folding, swinging, sliding, bi-fold and standard doors. Builds or installs pre-fabricated kitchen cupboards, medicine cabinets, bathroom vanities and counter tops. Cuts out sink openings using power saw. Measures, cuts and installs baseboard, using tools such as mitre box, measuring tape and saw. Installs hardware such as door handles and knobs, locks, closet rods and door stops, using drill and screw-driver. Cuts, fits and secures treads and risers in stair stringers. Cuts and nails casing around windows and doors and where specified in building plans. Sets nails and fills holes with material such as plastic wood or putty. Sands installed woodwork to prepare for painting. Installs items such as attic access doors, book cases, fireplace mantels, dividers, planters, window and door glass panels, wall panelling, cornices, floor tiles, stairposts, railings, hand rails and other interior trim as required. Builds stair landings as required.

GED: 3 SVP: 6 PA: M 2 3 4 7 EC: I 6 DPT: 4 8 1

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
3	4	3	3	3	4	3	3	3	4	4	0 Y

8781-117 FRAMER (construction)

Lays out, fabricates, and erects building framework such as sub-flooring, exterior walls, interior partitions and roofs: Studies building plans and specifications to determine construction features and layout and erection procedures. Checks foundation for alignment, squareness, dimensions and elevation to ensure placement of sills in accordance with specifications, using tools such as surveyor's level, tape measure, square, plumb bob and spirit level. Measures, cuts, drills, levels and secures foundation plates (sill) to anchor bolts

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to provide true and firm base from which structure can be erected. Measures, cuts and fits beams, support columns, floor joists, bridging and sub-flooring using carpentry tools. Lays out, cuts and erects studding for exterior and interior walls, including door and window framing, or positions and secures prefabricated panels to sub-flooring, using a variety of hand and power tools. Nails prefabricated roof trusses in place, or lays out, cuts and assembles ceiling joists and rafters to construct roof framing. Sheathes roof and exterior walls with materials such as plywood, shiplap or fibreboard to enclose structure, using hammer and nails or power fastener. Measures, cuts and nails fascia and soffit panels in position, working from ladders or scaffolding, or nails panels to prefabricated exterior walls prior to erection. Installs prefabricated metal or wooden windows and exterior door frames with pre-hung doors, using level, shims, hammer and nails. Fabricates interior fixtures such as drop ceilings, valances and stair stringers. Constructs building attachments such as formwork for exterior concrete stairs, porches, carports, sun decks and dormers. Erects and disassembles metal or wooden scaffolds used to provide access to work locations inaccessible from ground level. Installs exterior trim such as moulding, water tables, shutters and steel studding for interior non-bearing walls, if required. Assembles and erects modular, component and mobile type prefabricated buildings as required.

GED: 3 SVP: 6 PA: H 2 3 4 7 EC: B 6 DPT: 3 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	3	3	4	3	3	3	3	5			1 9	0 Y

8781-119 KITCHEN CUPBOARD AND VANITY INSTALLER (construction)

Assembles and installs pre-fabricated cupboards and vanities in kitchens and bathrooms:

Studies work-order specifications or blueprints to determine lay-out and installation procedures. Measures and marks guidelines on ceilings, walls and floors for cupboard placements, using tape measure, pencil and level. Assembles cupboards with screws, using electric screwdriver. Drills fastening holes through pre-marked points on backs and sides of wall cupboards with electric drill. Lifts, aligns, levels, nails and screws cupboards in position with aid of co-worker. Cuts openings in cupboards for water and drain pipes, using power drill and saw. Screws and glues pre-finished counter tops in place. Marks and cuts openings for sinks with power cutting tools. Slides cupboard doors onto pre-installed hinges. Nails pre-cut trim moulding underneath base cabinets and around edges of wall cabinets.

GED: 3 SVP: 5 PA: M 2 3 4 7 EC: I 6 DPT: 3 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	3	4	4	3	4	3	4	4			1 9	0 Y

8781-120 EXTERIOR CLADDER (construction)

Applies siding materials such as wood, metal, asbestos, hardboard and plastic on the exterior of new or old buildings to provide protective, decorative and insulating surface:

Studies building plans and specifications to plan work and determine materials and tools required. Measures, marks, cuts and attaches underlay material over wall sheathing to provide a water resistant and insulating base, using measuring tape, knives, and staple gun. Cuts, levels and secures strapping to building exterior to provide support for

siding material, using tools and devices such as saws, hammer, square, shims, nails and screws. Measures, cuts, fits and nails siding materials to building exterior, using hand and power tools. Cuts and nails flashing around window and door openings where additional weather protection is required, using tinner's snips. Caulks joints and cracks to seal and waterproof open sections of building. Nails and screws exterior trim items such as shutters, window boxes and false beams to building. Erects metal or wooden scaffolds. Measures, cuts and fits eavestroughing, when specified, using hand tools such as level, chalkline, tinner's snips and metal cutting saw. Cuts, fits, and nails soffit and/or fascia panels, as required. Installs prefabricated fixtures such as porch railings, storm windows and doors, awnings, patio covers and privacy fencing, as required. Washes siding after installation to remove dirt and smudges, if necessary.

GED: 3 SVP: 5 PA: M 2 3 4 7 EC: O 6 DPT: 3 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	3	4	4	3	4	3	4	4			1 9	0 Y

8781-121 CONCRETE FORMER (construction)

Erects prefabricated wooden or metal forms used to mould concrete footings and walls of residential buildings and other construction projects:

Studies building plans to determine lay out, dimensions and specifications. Locates and stakes out reference points and lines to fix exact location of foundation, using tape measure and surveyor's level. Cuts and nails lumber to construct forms for footings using carpenter's hand tools. Erects prefabricated wall forms on footings manually, using plumb bob and spirit level to ensure proper alignment in preparation for pouring of concrete. Inserts metal tie-rods to hold opposite faces of panels to specified dimensions. Positions and secures window and door frames and reinforcing steel rods in forms as specified. Builds or erects forms for use in construction of piers, swimming pools, sidewalks, columns, steps and retaining walls. Measures, cuts and places shoring or bracing to ensure forms have adequate support. Erects scaffolding to build working platform near top of forms. Strips forms, bracing and platforms from structure after concrete has hardened, using tools such as crow bar, hammer and wrecking bar. Cleans forms, using tools such as hammer and scraper to prepare forms for reuse. Constructs wooden forms using hand tools. Builds and erects chutes for pouring concrete into forms if required. Installs weeping tile and pipe around foundations, when required.

GED: 3 SVP: 5 PA: H 2 3 4 7 EC: O DPT: 4 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	3	4	4	3	4	3	4	5			1 9	0 Y

8781-122 CARPENTER HELPER (construction)

Helps carpenters and related workers construct and repair wooden structures:

Conveys tools, lumber and other materials to work site by hand, wheelbarrow, hoist or truck. Selects and saws lumber to size, using hand and power saws. Places and holds items such as forms, lumber, steel beams, exterior siding materials, doors, partition walls, ceiling panels and window sashes in position for nailing and securing. Cuts and nails heavy timbers, planks, bracing, scaffolding, underpinning, and other rough work, using power saw and hammer. Assists in measuring and cutting windows and other openings. Assists in raising wall

framing into position. Assists in nailing sheathing to studs and rafters, and sub-flooring to joists after structure has been formed. Feeds and off-bears materials to and from woodworking machines. Helps install insulation materials, acoustical ceilings, cabinets, vanities, counters and floors. Fills and sands nail holes and performs other routine tasks. Digs shallow holes to support posts or other structures. Mixes and pours concrete. Removes and cleans scaffolding, shoring and bracing forms. Cleans work area, tools and equipment.

GED: 2 SVP: 3 PA: M 2 3 4 EC: B 6 DPT: 6 8 4

APT.													INT.	TEMP.		
G	V	N	S	P	Q	K	F	M	E	C						
4	4	4	4	4	5	3	4	3	3	5		1	3	2	3	Y

8781-199 OTHER CARPENTERS AND RELATED OCCUPATIONS

This residual group includes carpenters and related workers not presently classified in Unit Group 8781.

8782-BRICK AND STONE MASONS AND TILE SETTERS

This unit group includes occupations concerned with preparing and laying brick, stone, concrete block, tile, marble, refractory and related materials; using chisels, hammers, trowels, levels and other hand tools. Activities include: mixing mortar, cutting materials to shape and laying out, aligning and setting materials.

8782-110 BRICKLAYER (construction)

Lays brick, pre-cut stone, concrete, cinder or other types of building blocks in mortar to construct and repair both veneer and solid walls, foundations, partitions, arches, sewers and other structures: Examines plans and specifications to obtain details of construction, such as dimensions, materials, location of door and window openings, columns and piers. Directs helper to erect scaffolds, set out materials and mix mortar. Seals foundation with damp resistant material such as copper paper. Strings taut line between storey poles or built-up corners to act as horizontal guide. Spreads layer of mortar to serve as base and binder for blocks, using trowel. Lays dampened bricks in horizontal rows or designs and shapes, spreading mortar between joints. Laps block with trowel to embed it firmly in mortar. Removes excess mortar from face of block using trowel. Checks vertical and horizontal alignment with level, plumb line or square at regular intervals. Anchors brick veneer walls to face of structure, using metal ties. Finishes mortar between joints using pointing tool or trowel. Shapes brick to fit irregular spaces using edge of trowel, masonry hammer, chisel or power saw. Cleans brick with water and acid. Constructs arches or ornamental brickwork such as decorative pillars, fireplaces and chimneys using bricklaying procedures. Repairs and maintains brick, cement block and related structures by repointing walls and replacing cracked or damaged sections.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: B 6 DPT: 3 6 1

APT.													INT.	TEMP.		
G	V	N	S	P	Q	K	F	M	E	C						
3	3	3	3	4	4	3	4	3	3	4		1	9	0	0	Y

8782-111 BRICKLAYER APPRENTICE (construction)

Performs duties of bricklaying occupations such as: 8782-110 BRICKLAYER (construction); 8782-114 BRICKLAYER, REFRACTORY BRICK (construction); and 8782-126 STONEMASON (construction) on a progressive basis according to a training schedule.

8782-114 BRICKLAYER, REFRACTORY BRICK (construction)

Lays firebrick, plastic brick and refractory tile to build, rebuild, reline or patch steam boilers, furnaces, kilns, convertors, ladles, smelters and related equipment:

Examines blueprints and specifications to determine layout and brick requirements. Lays out work using chalk-lines, plumb bob, tapes, square and level. Directs helper to mix fireproof mortar and assemble required tools and materials. Shapes brick, when necessary, using hammer, power saw, hand saw or trowel. Spreads fireclay mortar over brick with trowel and lays in place. Checks each new row using plumb line and spirit level to ensure it is correctly aligned vertically and horizontally. Sprays or spreads heat resistant substance over exposed bricks to retard deterioration. Bends and positions metal frame to form basis for archwork encountered in such places as ovens, kilns, boilers or furnaces. Cuts or drills openings in brick or plastic for heating elements and pyrometer. Packs and tamps insulation such as asbestos wool fibre or ribbon at specified points.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: I 3 6 7 DPT: 3 6 1

APT.													INT.	TEMP.		
G	V	N	S	P	Q	K	F	M	E	C						
3	3	3	3	4	4	3	4	3	3	5		1	9	0	0	Y

8782-118 REFRACTORY-BRICK REPAIRER (any ind.)

Repairs and replaces firebrick and refractories in casings and linings of industrial ovens, cupolas, kilns, silos, furnaces, boilers, ladles, convertors and related equipment:

Inspects area to be repaired to determine nature and extent of repairs required. Removes burned or damaged brick and cleans exposed surface, using sledge hammer, pneumatic hammer, pry bar, chisel, scraper and wire brush. Lays out and marks reference points, using rule, plumb bob, tape, level and square. Directs helper to assemble materials and mix fireproof mortar according to specifications. Cuts new firebrick and refractories to fit area to be repaired, using power saw, chisel, brick hammer or trowel. Installs firebrick and tile by spreading each with mortar mixed to specifications, and placing them in position along layout. Installs plastic slabs by hammering castable material over prepared area, using hammer and air gun. Packs and tamps insulation such as asbestos at specified points. Patches cracks and holes with fire clay. Spreads high heat plastic refractory mixes over exposed brickwork to provide protection against deterioration by heat. Smooths completed work by sandblasting, as required. Repairs or replaces related equipment such as clay troughs, spout, tap-holes, flues, bolts, brackets and flexible bus bars, using hand tools and oxy-acetylene torch.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: B 3 6 7 DPT: 3 6 1

APT.													INT.	TEMP.		
G	V	N	S	P	Q	K	F	M	E	C						
3	3	3	3	4	4	3	4	3	3	5		1	9	0	0	Y

8782-122 BRICK-SMOKESTACK BUILDER AND REPAIRER (construction)

Constructs or repairs industrial smokestacks and large chimneys constructed or lined with refractory material such as fire brick and gunnite;

Reads blueprints to determine layout measurements and type of refractory material and mortar to be used. Climbs ladder or scaffold or is lowered in swing-type chair attached by cable to crane, to reach work area. Directs other workers to hoist supplies such as brick and mortar. Spreads layer of mortar that serves as base and binder for brick, using trowel. Lays rows of tapered brick in circular form, according to specifications. Checks vertical and horizontal alignment of structure with level, plumb line or template as work progresses. Builds flue opening at specified height. Attaches chimney fixtures such as lightning conductors and aircraft warning lights. Replaces or patches defective brick, using trowel and mortar.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: O 6 DPT: 3 6 1

APT.													INT.	TEMP.			
G	V	N	S	P	Q	K	F	M	E	C							
3	3	3	3	4	4	4	4	4	4	4	5	1	9	0	0	Y	8

8782-126 STONEMASON (construction)

Cuts, trims and lays stones to build structures such as walls, fireplaces and walks:

Instructs helper to assemble and set out materials, mix mortar and erect scaffolding as required. Shapes stones preparatory to setting using chisel, hammer and other shaping tools. Spreads mortar over stones and foundation with trowel. Sets stones in place, by hand, using pry bar, or with aid of lifting device. Checks alignment of stones with plumb line, level, straightedge or square. Finishes joint between stones with pointing trowel. Cleans surface of stones by rubbing and brushing with water or muriatic acid.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: B 6 DPT: 3 6 1

APT.													INT.	TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
3	3	4	3	4	5	3	4	3	3	4	1	9	0	0	Y

8782-130 TILE SETTER (construction)

Lays ceramic, marble, granite, slate and prefabricated terrazzo and mosaic tiles on walls, floors and ceilings to provide a protective and decorative finish:

Examines plans, measures and marks surface to be covered and lays out work. Directs helper to assemble materials and mix required compound. Prepares wall or floor surface by removing old tile with chisel, scraping away old grout and adhesive and cleaning surface with soap and water. Measures, cuts and tacks metal lath to ceiling and wall supports using tin-snips, tacks, staples and hammer when lath and cement are used as tile base. Spreads and smooths plaster or cement over lath using trowel and screed to complete lath type tile base. Spreads adhesive such as cement, mastic or ceramic glue on lath-cement base, or on gypsum board, plywood or masonry surface. Cuts tile to fit around fixtures, openings and corners using tile-cutter knife. Applies adhesive to tiles using trowel. Sets tile in position and taps it with trowel handle to affix tile firmly to adhesive base. Checks surface covered to ensure that tiles are properly aligned, using level, square, plumb bob and straightedge. Applies grout (finishing cement) to joints after tiles have set, using trowel. Wipes tiles clean and removes

excess grout using rubber-faced float. Lays mosaic tiles on paper or fabric mesh as required to form decorative pictures or patterns. Sets tiles in patterns on backing sheets, forming prefabricated tile sections to fill orders for customers or facilitate rapid installation at worksite.

GED: 3 SVP: 7 PA: M 2 3 4 7 EC: I 6 DPT: 3 6 1

APT.													INT.	TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
3	4	4	3	4	4	3	4	3	4	4	1	9	0	0	Y

8782-131 TILE-SETTER APPRENTICE (construction)

Performs duties of 8782-130 TILE SETTER (construction) on a progressive basis according to a training schedule.

8782-134 MARBLE SETTER (construction)

Sets blocks and slabs of precut marble to cover or construct floors, walls and other surfaces:

Studies specifications and work site to determine layout, materials and installation procedures. Measures and marks reference points to lay out work. Directs helper to mix mortar. Assists and directs helper to clean and level mortar bed to form base for marble floor slabs. Covers underside of slab with thin layer of mortar to ensure perfect levelling. Sets and tamps slab in position manually or using hand-operated crane. Checks alignment, using hand level and square. Fills joints between slabs with mortar and trims joints with trowel or wooden paddle. Marks and drills holes in walls and slabs for brackets and metal or wire anchors. Spreads mortar on bottom of slab and sides of adjacent wall. Sets blocks in position, manually or using hand-operated crane. Checks alignment using level, plumb bob and square. Attaches securing brackets. Fills and points joints with grout. Sponges excess grout from marble surface. Cleans and levels cracks or chips on slabs, using hand and power tools. Heats chipped or cracked area with blowtorch and fills defects with composition mastic that matches grain. Polishes installed marble or other ornamental stone to high lustre using hand or power tools. Cuts marble pieces to ensure better fit, as required.

GED: 3 SVP: 7 PA: H 2 3 4 7 EC: B 6 DPT: 3 6 1

APT.													INT.	TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
3	4	4	3	4	5	3	4	3	3	4	1	9	0	0	Y

8782-138 MASONRY-SILO ERECTOR (construction)

Erects silos by fitting together prefabricated concrete sections constructed to fit in tongue and groove joints:

Studies plans and specifications to determine method and sequence for installation of silo parts. Measures and marks reference points on previously-prepared surface to outline exact position for silo. Lays out parts according to sequence of installation. Lifts or directs other workers to lift concrete sections into position for installation, using power hoist. Erects and fits silo sections together. Verifies alignment of sections using plumb bob and level. Spreads mortar between sections when tongue and groove joints do not fit correctly, using trowel. Brushes sealer mix onto interior surface of wall to seal joints. Fits and secures metal cupola parts together to form roof for silo. Attaches hardware such as reinforcement bands, ladders, lightning rods, and doors to complete structure. Inspects completed assembly, bracing, and joints to ensure compliance with specifications.

GED: 3 SVP: 6 PA: V H 2 3 4 5 6 8 EC: O 6 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	3	<u>3</u>	<u>4</u>	5	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	5			1 9 0	0 Y

8782-142 STONE SETTER (construction)

Sets decorative and structural pre-cut stone in domestic, commercial and public buildings:

Examines drawings and specifications to determine layout for setting stones. Measures and marks off corners and main lines of walls using tape, square and line. Mixes mortar or directs helper to do so. Selects stone according to predetermined position number, size, shape and colour. Spreads layer of mortar over foundation or previously-laid stone. Sets stone in mortar bed by hand or using hoisting apparatus such as block and tackle, crowbar and winch; and tamps stone in place with hammer, trowel or mallet. Aligns stone with level, straight-edge and plumb line. Fills and finishes joints between stones with mortar, using pointing trowel. Cleans surface of stone of excess mortar, using wet brush and cloth. Repairs and restores stone walls of buildings, replacing damaged blocks and pointing joints with mortar. Fastens stone to supports using metal ties, anchors and metal clips or by welding. Chips stone according to specifications using hammer and chisel.

GED: 3 SVP: 7 PA: H 2 3 4 7 EC: B 6 DPT: 3 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	<u>3</u>	<u>4</u>	5	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	4			1 9 0	0 Y

8782-151 MASONRY-PRODUCTS ERECTOR (construction)

Lays brick, concrete blocks and pre-cut or artificial stone to construct veneer walls and fireplaces and miscellaneous masonry in residential construction:

Examines plans and specifications to obtain details of construction such as dimensions and location of doors and windows. Seals foundation by nailing damp-proofing material to sheathing and foundation of building. Strings and secures taut line between storey poles to act as guide for laying brick. Mixes mortar and colouring, if required, in small portable power mixer. Spreads layer of mortar on foundation and lays bricks in horizontal rows, checking alignment with plumb bob and level. Anchors bricks to wall using metal ties. Presses mortar into tight concave joint, using pointing tool. Cuts bricks, stone or concrete blocks, as required, using hydraulic brick cutter, power saw or chisel. Cleans brick with acid solution using brush and rubber gloves.

GED: 3 SVP: 5 PA: M 2 3 4 7 EC: O 6 DPT: 3 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	<u>3</u>	<u>4</u>	4	<u>3</u>	<u>4</u>	<u>3</u>	<u>4</u>	4			1 9 0	Y 0 2

8782-154 SIMULATED-STONE INSTALLER (construction)

Installs moulded artificial stone covering on walls to provide decorative appearance:

Nails lath and backing paper on wall to be covered. Mixes and

spreads coating of mortar or plaster onto surface to form base. Measures and marks prepared surface to lay out symmetrical or other pattern prescribed for mounting artificial stone. Presses moulds containing precast ornamental block onto guidelines along wall according to prescribed sequence of color, size and design. Presses mould in place to force out surplus water and set stone. Removes empty mould and protective paper facing when stone and mortar have hardened. Trims and sets stone to fit corners, edges and other structural shapes. Finishes wall surface by filling and caulking joints between stone sections, and smoothing edges and angles using trowel, caulking gun, electric grinder and jointing tools. Cleans excessive mortar from surface of stone using wet brush or cloth.

GED: 3 SVP: 5 PA: M 2 3 4 EC: B 6 DPT: 3 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	<u>4</u>	<u>4</u>	5	<u>3</u>	<u>4</u>	<u>3</u>	<u>4</u>	4			1 9 0	0 Y

8782-158 CHIMNEY REPAIRER (construction)

Repairs chimneys and fireplaces in domestic and commercial buildings:

Prepares work site by turning off heat controls in building, removing pipes connecting furnace to chimney, and sealing openings in chimney to prevent leakage of soot. Tightens loose bolts on chimney attachments such as flue damper and frame. Relines chimney with double-walled metal pipe, inserting pipe in sections from top when converting to gas heat. Replaces worn, broken or loose bricks in chimney and chimney cap or rebuilds defective or outmoded chimneys in accordance with specifications. Performs other masonry repairs to chimneys such as pointing brick, patching cracks, relining chimney flue with tile, or refacing chimney and fireplace decorative stone.

GED: 3 SVP: 5 PA: H 2 3 4 EC: B 6 7 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	<u>4</u>	<u>4</u>	5	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	5			9 1	Y 0

8782-166 MONUMENT SETTER (construction)

Erects stone monuments at locations, such as cemetery grave sites and war memorials:

Loads sections of monument onto truck using winch, block and tackle or skids and dollies. Checks with cemetery superintendent as to proper placement of monument. Lays out location using rule and staked lines. Digs trench for foundation using pick and shovel. Mixes and pours mortar into trench to prepare foundation for setting base stone. Removes sections of monument from truck and guides base stone onto foundation using skids, dolly and ramp, hoist or truck crane. Aligns and levels stone using rule, square, plumb line, wedges, and crowbar. Spreads setting compound on stone with trowel and sets remainder of monument in position. Fills joints between stone with setting compound and finishes joints using trowel. Removes excess compound from monument using brush and solvent.

GED: 2 SVP: 4 PA: V H 3 4 7 8 EC: O 6 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	<u>3</u>	<u>4</u>	5	<u>3</u>	<u>4</u>	<u>3</u>	<u>4</u>	4			3 1 9	3 Y 0

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8782-178 MASONRY POINTER AND CAULKER (construction)

Repairs and finishes mortar joints in masonry walls:

Removes loose mortar and scrapes excess mortar from joints to specified depth using raker (hook-like metal tool), hammer and chisel, portable grinder or compressed-air gun. Hoses joint with water spray to facilitate adhesion of fresh mortar. Inserts fresh mortar into joints using trowel or mortar dispenser. Smooths, levels and removes excess mortar in joints using trowel and pointing tool. Caulks cracks in wall, and joints in windows, doorframes, and other openings encased in masonry to make them waterproof and airtight. Screws flashing to joints, as required, in lieu of caulking to waterproof windows and doors. Sprays or brushes protective coating such as silicone onto masonry when required.

GED: 2 SVP: 4 PA: M 2 3 4 EC: O 6 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	4	4	5	3	4	3	3	5			1 9 3	Y 2

8782-186 CUPOLA RELINER, SPRAY (iron & steel; non-ferrous metal)

Relines interiors of cupola furnaces by spraying surfaces with refractory mixture:

Installs pre-formed metal scaffolding in interior of cupola. Prepares surface of cupola interior by tearing out cracked, burned or damaged refractory lining with hammer, chisel and wrecking bar. Loads specified amount of refractories such as clay, cement and water into mixing tank of compressor type machine. Starts machine to mix ingredients. Opens air valves on machine to force mixture into hose and climbs scaffolding, carrying hose. Presses trigger to release mixture, and directs spray evenly over interior surfaces of cupola. Prepares bed of cupola, using moulding-sand mixture. Rebuilds tap-hole in cupola by hand, using refractory material.

GED: 2 SVP: 3 PA: M 2 3 4 EC: I 3 5 6 7 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	3	4	4	3	4	3	4	4			1 9 0	Y 0 2

8782-299 OTHER BRICK AND STONE MASONS, TILE SETTERS AND RELATED OCCUPATIONS

This residual group includes bricklayers, stone masons, tile setters and related workers not presently classified in Unit Group 8782.

8783-CONCRETE FINISHING AND RELATED OCCUPATIONS

This unit group includes occupations concerned with pouring and casting concrete at construction sites, levelling and finishing concrete, erecting steel forms, applying grout and laying and polishing terrazzo. Occupations concerned with laying concrete paving are classified in Unit Group 8713 PAVING SURFACING AND RELATED OCCUPATIONS.

8783-110 TERRAZZO WORKER (construction)

Applies cement, sand, pigment and marble chips to floors, walls, stairways and fixtures to attain durable and decorative surfacing:

Examines blueprints or work orders, or receives oral instructions to obtain details regarding terrazzo tile installation. Measures and marks layout of surface to be tiled. Nails wire mesh to wall surfaces to provide adhesion for terrazzo base. Trowels and levels mortar mixture over surface to form terrazzo base. Cuts, or uses pre-cut, metal-division strips and presses them into terrazzo base on concrete, masonry or brick surfaces so that top edges outline differences in colour, design or pattern and define level of finished surface. Spreads mixture of tinted concrete and marble chips over base to form finished terrazzo surface. Smooths and levels surfaces of freshly-laid mixture, using straightedge and float. Scatters marble chips over finished surface and pushes roller over surface to embed chips. Grouts cracks or crevices with mortar when surface is dry. Grinds and polishes terrazzo surface, using electrically powered finishing machine. Grinds and polishes curved surfaces and areas inaccessible to surfacing machine, such as stairways, walls, cabinet tops and baseboards, using hand held polishing machine. Breaks up old terrazzo surfaces with jackhammer. Pre-casts terrazzo blocks in wooden forms when required.

GED: 3 SVP: 7 PA: M 2 3 4 EC: B DPT: 6 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	4	4	4	3	4	3	4	4			1 9 0	Y 0

8783-114 CEMENT-GUN NOZZLE OPERATOR (construction)

Sprays mortar over exposed surfaces to repair or reinforce structures:

Opens valve to turn on water jet in hose nozzle and signals operator of mixing machine to start dry mixture of sand and cement through hose to nozzle. Directs steam of mortar from nozzle onto surface of structure and guides nozzle to attain desired thickness of mortar. Turns valve on nozzle to adjust rate of water flow to attain desired mortar consistency. Taps hose with hammer to break up lumps that lodge in hose. Assists in erecting scaffolds to form work platform. Cleans nozzle with water and brushes and replaces worn parts. Operates mixing machine and pump when required. Sprays mortar over wire mesh to construct structures such as swimming pools and tunnels.

GED: 3 SVP: 5 PA: H 2 4 5 EC: B 5 6 DPT: 6 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	4	5	3	4	3	3	4				9 3 1	2 Y

8783-122 CEMENT-FINISHER (construction)

Smooths and finishes exposed surfaces of freshly-poured concrete roads, sidewalks, curbs, floors, stairs, ramps and other concrete structures:

Verifies accuracy of concrete forms, working from plans and specifications, and using ruler, square, level and plumb line. Pushes or pulls screed or template over surface to spread concrete to specified depth. Tamps, smooths, shapes and seals concrete for specified surface texture, using variety of hand tools. Operates trowelling machine to float, trowel, and polish large surface areas of concrete. Installs fixtures in concrete, as specified, such as anchor bolts for equipment, steel plates

and door sills. Wets concrete, and rubs with abrasive stone to finish vertical surfaces. Directs and assists workers covering freshly-poured concrete with materials such as sawdust, burlap, water and oil coating, colouring powder and stone chips to achieve specified surface on concrete. Cuts lines in concrete as specified, using power cutter. Forms expansion joints and edges, using edging tools, jointers, and straight-edge. Removes rough or defective spots on concrete surface with chisel and hammer or grinder, and patches holes with fresh concrete. Grouts cracks or holes in concrete if required. Brushes surface with acid or manipulates nozzle of sandblasting machine to prepare surface for epoxy material. Mixes epoxy with colouring and liquid material and brushes epoxy over prepared surface. Brushes or sprays waterproofing materials over walls and floors. Corrects defects or structural errors in erected pre-cast structures using wooden or styrofoam forms, clamps, nails and wet concrete. Repairs and replaces worn or damaged sections of concrete floors, walls, vats and other concrete structures. Directs the mixing and pouring of concrete and setting of forms, as required.

GED: 3 SVP: 5 PA: M 2 3 4 5 7 EC: B 4 5 6 DPT: 6 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	4	5	3	4	3	4	4				1 9 3	Y 0

8783-123 CEMENT-FINISHER APPRENTICE (construction)

Performs duties of 8783-122 CEMENT FINISHER (construction) on a progressive basis according to a training schedule.

8783-126 STEEL-FORMS SETTER (construction)

Erects prefabricated steel forms, pans and associated supports used to mould concrete structures such as walls and floors: Directs helpers and crane operator engaged in lifting and positioning structural-wall forms. Attaches sections together, and installs bracing between forms, using bolts, pins, tie bars, braces and welding equipment. Adjusts forms to comply with specifications and uses rule, level and plumb bob to verify dimensions and alignment of installed forms. Bolts stringers to forms to support steel pans for floors. Places supports under stringers at specified intervals, and secures them with sliding clamps or jacks. Positions and secures pans in rows to support poured concrete floor while curing. Guides wire-mesh reinforcing mats into place and wires them to joists. Removes wall forms, pans, stringers and shoring after concrete has cured, using hammer and pry bar. Erects prefabricated steel forms used to mould concrete linings in tunnels.

GED: 3 SVP: 5 PA: H 2 3 4 5 6 EC: O 5 6 DPT: 6 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	3	4	4	3	4	3	4	5			9 1	0 Y

8783-134 CONCRETE-GUN-MIXER OPERATOR (construction)

Operates concrete mixer and pneumatic gun to mix and apply concrete, under pressure through pipeline, to moulding forms or over surfaces of structures:

Starts gasoline motors to provide power for mixing machine and air compressor. Actuates levers and opens valves to load and mix measured amounts of sand, gravel, cement and water. Moves mixed concrete, or directs truck driver to dump ready-mix concrete, into charging tank, and closes tank opening to make it airtight. Adjusts air pressure valve and directs hose nozzle to apply concrete over surface of structure or into moulding forms. Observes falling pressure on charging tank gauge to determine complete discharge of concrete from tank. Operates two mixers and charging tanks alternately to ensure continuous flow of concrete to nozzle, if required. Cleans and maintains equipment.

GED: 3 SVP: 4 PA: H 3 4 EC: B 5 7 DPT: 6 8 2

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	4	4	4	3	4	3	4	4			9 3 1	2 Y

8783-142 CONCRETE-FLOAT MAKER (construction)

Fabricates and casts concrete-moorage floats: Saws foam plastic into blocks for use as cores for buoyancy chambers. Assembles and seals blocks using stapling gun and masking tape. Cuts and installs tubing into buoyancy core to provide channels (raceways) for ease in assembling and servicing wiring and pipes. Cuts and assembles reinforcing wire mesh to cage buoyancy core and provide reinforcement for concrete, using power cutters and fastening clinchers. Moves buoyancy core and reinforcing mesh to pouring area, using fork-lift. Erects and fastens steel form sections around core with connecting pins. Positions and secures core in steel form with metal spacers. Mixes and pours concrete into sides of form, around core and reinforcing mesh, and settles concrete with vibrators. Fills space on top of core and channel beams with concrete. Levels, smooths and finishes top surface of float, using hand tools. Strips forms and moves float to curing area.

GED: 3 SVP: 5 PA: M 3 4 EC: B 4 6 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	3	4	5	3	4	3	4	5			9 1	Y 0

8783-154 GROUTER (construction)

Manipulates hose and nozzle attached to pump holding grout mixture to fill spaces such as cracks in rock formations and porous concrete, between tunnel lining and surrounding earth, or under sunken spots in concrete pavement and sidewalks: Directs helper to fill pump chamber with grout mixture. Drills holes in concrete structure, and checks depth of cavity to determine amount of grouting required. Aims or inserts nozzle into spaces to be filled or into drilled holes. Signals helper to start and stop pump. Pushes valve to control operation of nozzle. Observes grout flow and closes valve when space is filled to capacity. Inserts plugs into drilled holes or other openings to prevent seepage of grout. Flushes pump and supply lines with water and compressed air to clean equipment, or directs helper to do so. Pumps chemical materials into spaces to compact soil prior to grouting.

GED: 2 SVP: 4 PA: M 2 3 4 EC: B 4 5 6 DPT: 6 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	4	4	5	4	4	3	4	5			3 1 9	2 3

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8783-156 TERRAZZO POLISHER (construction)

Operates power machines to grind and polish newly-laid terrazzo surfaces:

Places carborundum stones in bottom pocket of floor-and-base grinding machine. Fills floor machine with water. Spreads silica sand over surfaces to act as an abrasive agent during grinding process. Manipulates hand controls and pushes floor machine over surface repeatedly until desired finish is obtained. Moves hand-held grinder over water dampened surfaces to polish areas such as table tops, stairs, counters, baseboards and other areas inaccessible to large finishing machine. Feels surfaces periodically to determine smoothness. Fills air pore holes on floor surfaces with grouting compound. Regrinds surfaces when grouting is dry.

GED: 2 SVP: 4 PA: H 2 3 4 EC: B 4 DPT: 6 8 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	4	4	4	5	<u>4</u>	4	<u>3</u>	4	5			3	1	9		2	Y

8783-158 CEMENT-GUN-MACHINE TENDER (construction)

Tends machine that mixes and forces sand and cement (gunite) through hose to coat surfaces of structures:

Dumps or shovels specified proportions of cement, sand or other materials such as refractories into hopper of machine. Starts mixer and turns valve to transfer mixture from hopper into pressure chamber. Opens valve to force mixture through hose to nozzle. Regulates pressure of air in chamber to supply dry mixture to nozzle at desired rate. Places and holds wire mesh in position for welding by other workers preparatory to coating steel surfaces.

GED: 2 SVP: 3 PA: H 4 EC: B 5 6 7 DPT: 6 8 5

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	5	4	4	5	<u>4</u>	4	<u>4</u>	4	5			3	1	9		2	3 Y

8783-170 PUMP TENDER, CEMENT AND CONCRETE (construction)

Tends pump to force cement or concrete mixture through pipeline or hose at construction site:

Lays pipeline or flexible hose to convey cement or concrete between points. Connects pump between intake and discharge pipes. Signals truck driver to dump wet cement or concrete into receptacle or pump hopper. Starts pump or air compressor engine to force cement or concrete through pipe, and turns valve to regulate flow. Clamps boom line to pump, or bolts vertical pipeline to side of structure when working on high structures. Manipulates remote controls or controls in truck to manoeuvre boom and to start and stop flow of concrete. Disconnects and cleans pump, piping and boom on completion of project. Adjusts and lubricates moving parts to maintain pumps and compressors.

GED: 2 SVP: 2 PA: M 2 3 4 EC: O 5 DPT: 6 6 5

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	5	4	4	5	<u>4</u>	4	<u>3</u>	4	5			1	9	3		2	3

8783-199 OTHER CONCRETE FINISHING AND RELATED OCCUPATIONS

This residual group includes concrete finishers and related workers not presently classified in Unit Group 8783.

8784-PLASTERERS AND RELATED OCCUPATIONS

This unit group includes occupations concerned with applying plaster, stucco, plasterboard and related materials to structural surfaces; fastening laths to walls and ceilings to support plaster or related materials; applying coats of plaster to produce finished surfaces, mouldings and special effects; spraying fireproofing materials on surfaces; and erecting and finishing acoustical ceilings and dry walls.

8784-110 PLASTERER, ORNAMENTAL (construction)

Moulds and installs ornamental plaster panels and trim, and casts (runs) ornamental plaster cornices and mouldings on buildings:

Examines drawings or specifications to determine shape and dimensions of ornamental plaster work. Cuts and mounts zinc mould in wooden frame to form template of shape specified and casts mould to make plaster copy. Shapes plaster by hand, using template, and cuts and trims to size after plaster has hardened, or spreads freshly-mixed plaster on table or in forms with trowel when moulding panels and trim. Incorporates reinforcing materials such as jute fabric or steel wires into freshly poured plaster as required. Erects temporary support to hold mould in place on wall. Applies coat of plaster to wall to form bond, and presses panel or trim into position. Measures and marks mould dimensions on area to be covered when casting (running) cornices or mouldings. Nails wooden strips to wall and ceiling to serve as guide for template. Applies plaster to wall or ceiling with trowel. Pushes template over plaster, striking off excess plaster to shape and smooth moulding. Fills and smooths gaps or imperfections in plaster using small hand tools. Installs prefabricated ornaments and sculptures in buildings using adhesive, plaster and nails or screws as required.

GED: 4 SVP: 7 PA: H 2 3 4 7 EC: I 4 6 7 DPT: 6 8 1

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	3	4	<u>3</u>	<u>4</u>	4	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	4			1	9	0		Y	0

8784-111 PLASTERER APPRENTICE (construction)

Performs duties of plastering occupations such as: 8784-110 PLASTERER, ORNAMENTAL (construction); 8784-114 PLASTERER (construction); 8784-116 PLASTERER, FIREPROOFING (construction); and 8784-118 PLASTERER, STUCCO (construction) on a progressive basis according to a training schedule.

8784-114 PLASTERER (construction)

Applies coats of plaster to interior walls and ceilings of buildings to produce finished surface:

Directs workers to mix plaster to desired consistency and erect trestles and scaffolds. Applies various coats of plaster to structure according to type of material forming surface, using trowel. Levels and smooths first coat with darby and float to attain uniform thickness, and repeats same process for succeeding coats. Roughens undercoat with wire or metal scraper to provide bond for second coat. Shapes plaster border along sides to serve as guide for thickness of plaster coats. Plumbs and straightens corners, angles, and wall and ceiling surface using plumb line, straightedge and spirit level. Applies finishing coat by spreading thin, uniform coat of white finishing plaster over previous coat. Smooths surface with trowel, brush and water, and finishes corners and angles with angle float. Sprays or trowels and brushes on water periodically as finish coat is curing. Creates decorative textures in finish coat by marking it with brush, sponge or trowel, spraying stipple coat, or spattering small stones or glitter material onto surface. Sprays or applies protective glaze if required. Installs precast cornices, panel mouldings, ceiling centres and other plaster ornaments, if required. Applies plaster with spray gun, if required.

GED: 3 SVP: 6 PA: H 2 3 4 7 EC: I 4 6 7 DPT: 6 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	3	4	5	3	4	3	3	4			1 9 0	Y 0

8784-116 PLASTERER, FIREPROOFING (construction)

Sprays fireproofing material on metal or concrete beams, columns, walls, ceilings and other components of buildings and structures to provide protection in event of fire:

Directs or assists other workers to place protective coverings against spray over such areas as windows and furniture. Erects platforms or scaffolding as required. Cleans or directs other workers to clean surface to be sprayed. Connects hosing to pumping machine and spray gun for application of wet mix, and also to water supply if dry mix is used. Selects and attaches appropriate nozzle to spray gun. Blends fireproofing materials and water with power mixer, and empties mix into pumping machine. Sprays fireproofing material over area. Observes consistency of mix being applied and operates remote controls to adjust for correct spray. Mixes and sprays sealer or acoustic material over surfaces when specified. Trowels fireproofing mixture around doors, windows and areas missed during spraying operation. Instructs or assists other workers to clean work area.

GED: 3 SVP: 6 PA: M 2 3 4 7 EC: B 4 6 7 DPT: 6 6 2

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	3	4	5	3	4	4	3	5			1 9	2 Y

8784-118 PLASTERER, STUCCO (construction)

Applies protective and decorative covering of cement, plaster or other materials to exterior surfaces of buildings:

Erects scaffolding where necessary to reach higher surfaces. Mixes stucco material with water in hopper to required consistency, or directs other workers to do so. Measures, cuts and applies wire mesh, lath or similar material (that serve as a binding device) to outside surfaces to hold stucco in place. Applies various coats of stucco material with trowel. Levels stucco to attain specified thickness, using wood

or metal float. Decorates final, or finish, coat by marking it with brush or trowel, or spattering it with sand, small stones, pieces of coloured glass or plaster to obtain decorative and weather-resistant finish.

GED: 3 SVP: 6 PA: H 2 3 4 7 EC: O 4 6 DPT: 6 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	3	4	4	3	4	3	3	4			1 9 0	0 Y

8784-122 LATHER (construction)

Installs lath, dry wall and acoustic materials in residential, commercial, industrial and institutional buildings:

Studies plans, specifications and work site to determine materials to be used and installation procedures. Lays out location of interior partitions and ceilings, using tape measure, level, chalk and string. Erects metal stud framework or metal furring channels for installing dry wall or lath, using nails, screws and power tools. Verifies trueness of structure using square, plumb line, spirit level and laser beam. Drills holes in floor and ceiling and drives ends of wooden or metal studs into holes to provide anchor for lath. Wires horizontal channels or bars to studs to stiffen framework. Cuts gypsum or metal lath to fit openings and projections, using hand tools. Wires, nails, screws, clips or staples lath to framework, furring channels and ceiling joists. Bends metal lath to fit corners, or attaches preformed corner reinforcements, corner beads, expansion joints and picture mould. Secures furring channels to overhead structural framework to provide support for plaster or dry wall, using wire, screws and bolts. Constructs framework to desired shape or form when making cornices or other ornamental shapes for buildings, and covers framework with metal lath for plastering. Installs grounds (metal stripes) to provide guide for plasterer. Cuts dry wall to fit around doors, arches, outlets and other obstructions. Installs acoustical or thermal insulation in walls and ceilings. Applies soundproofing sealant around cut-outs and perimeter of partitions and ceilings using caulking gun. Secures dry wall to metal or wood framing, furring channels or masonry, using nails, screws, adhesives and hand or power tools. Installs movable, vinyl-covered, dry wall partitions, using hand and power tools. Wire-ties or grouts metal door frames in partitions. Erects T-bar grid for suspended acoustical, luminous and coffer ceilings, using water level or laser beam and hand and power tools. Lays acoustical panels, louvers and coffers in T-bar grid, cutting material to fit light fixtures, sprinkler heads and other obstructions, using hand tools. Installs suspended metal linear ceilings. Cuts and applies acoustical tiles to concrete, plaster, dry wall and wood strapping, using adhesive, nails, screws or staples.

GED: 3 SVP: 7 PA: M 2 3 4 7 EC: I 6 7 DPT: 6 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	4	3	4	4	3	4	3	3	5			1 9	0 Y

8784-125 ACOUSTICAL TILE AND DRY-WALL INSTALLER (construction)

Installs ceiling systems and dry wall in commercial, residential and institutional buildings:

Reads blueprints to determine materials required, dimensional specifications and installation procedures. Erects scaffolding if required. Lays out guide lines for interior walls and ceilings using tape measure, chalk line, water level, or laser beacon system. Nails and levels strapping to ceiling joists to provide base for ceiling tiles, using tools and materials such as hammer, chisel, saw, wooden wedges, hand level

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and string. Staples, nails or cements ceiling tiles to strapping base. Installs metal tee-bar grids used to hold panels for drop ceiling installations with materials and tools such as eyes, hooks, drop-wire supports, pliers, power activated gun, hand and power saws, laser beam, chalk line and level. Places aluminium louvres, tile or coffer panels manually into tee-bar grids. Cuts ceiling and wall materials to appropriate sizes to accommodate light fixtures, sprinkler heads, corners or other obstructions with knife, saw, tinners' snips and cutters. Secures dry-wall sheets to steel, wood, or concrete wall and ceiling supports, using hand and power tools or adhesives. Nails or screws wall mouldings into place. Erects pre-fabricated vinyl-covered movable and demountable dry-wall partitions, using materials and tools such as screws, bolts, mounting clips, metal strips, screwdrivers and wrenches. Erects steel stud framing for interior non-bearing walls, when required, using nails, screws, crimpers, glue, and metal strips to secure parts together. Staples insulating material to dry wall when required. Installs frames, doors and glass panels in walls as required.

GED: 3 SVP: 5 PA: M 2 3 4 EC: I 6 DPT: 6 6 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	4	4	4	5	3	4	3	3	5			1	9	0		0	Y

8784-126 DRY-WALL APPLICATOR (construction)

Fastens dry-wall sheets to interior walls and ceilings of residential construction:

Studies building plans to determine dry-wall layout. Installs insulation and vapour barrier as required. Measures and marks reference points on dry-wall sheets to prepare for installation on wall or ceiling. Cuts dry wall to shape and size using dry-wall knife or saw. Lifts and positions panels in place by hand or using lifter. Secures dry wall to metal studs using power-screw gun, and to wood supports using nails and dry-wall hammer or hatchet. Measures, marks and cuts metal corner beads used to protect exterior corners and secures in position, using hammer and nails. Erects metal stud framework for non-bearing walls as required, using nails, screws and power activated fastener. Works as member of a team when installing large panels or erecting ceiling.

GED: 3 SVP: 5 PA: M 2 3 4 EC: I 6 DPT: 6 8 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	4	3	4	5	3	4	3	3	5			1	3	9		2	Y

8784-127 DRY-WALL APPLICATOR APPRENTICE (construction)

Performs duties of 8784-126 DRY-WALL APPLICATOR (construction) on a progressive basis according to a training schedule.

8784-130 DRY-WALL TAPER (construction)

Applies joint cement and tape to holes, cracks and dry-wall joints to prepare surface for papering or painting: Cuts and nails corner bead strips over dry wall as required. Mixes joint compound by hand or with portable mixer. Fills joints between dry-wall panels, nail indentations, holes and cracks with joint compound,

using dry-wall knife or specialized tools such as nail spotter. Applies joint cement and tape over joints between panels and corner bead using taping knife or trowel, or automatic taping machine which discharges and applies cement and tape simultaneously. Embeds tape and spreads excess cement at corners, using flusher or corner roller. Applies second and third coat of cement over depressions and taped joints, using flat-finisher or trowel and taping knife. Sands joints and corners using pole sander and sanding block after each application if required. Mixes ceiling compound with water or uses pre-mixed material, and sprays on ceiling to give textured appearance.

GED: 3 SVP: 5 PA: M 2 3 4 7 EC: I 4 7 DPT: 6 8 4

APT.											INT.			TEMP.				
G	V	N	S	P	Q	K	F	M	E	C								
4	4	4	4	4	5	3	4	3	3	5			1	3	9	2	3	Y

8784-134 DRY-WALL SANDER (construction)

Sands seams and other rough areas of taped and sealed dry-wall surfaces to prepare for final finish:

Assists dry-wall tapers by filling and smoothing surface cracks, nail holes and other defects with sealing compound, if required. Sands taped joints and other rough areas of dry wall to prepare surface for painting, or other final finish, using portable electric sander or hand-operated sanding block. Sands areas not accessible to sanding machine with hand-held contoured sanding block. Observes and feels sanded surface for desired smoothness.

GED: 2 SVP: 2 PA: L 2 3 4 EC: I 7 DPT: 6 8 4

APT.											INT.			TEMP.				
G	V	N	S	P	Q	K	F	M	E	C								
4	4	5	4	4	5	4	4	3	4	5			1	3	9	2	3	Y

8784-199 OTHER PLASTERERS AND RELATED OCCUPATIONS

This residual group includes plasterers and related workers not presently classified in Unit Group 8784.

8785-PAINTERS, PAPERHANGERS AND RELATED OCCUPATIONS

This unit group includes occupations concerned with applying paint and related materials to interior and exterior surfaces of buildings and other structures such as bridges and tanks; applying wallpaper and fabrics to walls and ceilings; and posting advertising bills. Occupations concerned with applying paint and related materials with brushes and spray guns during product fabricating are primarily classified in Unit Group 8595, PAINTING AND DECORATING OCCUPATIONS, EXCEPT CONSTRUCTION.

8785-110 PAINTER AND DECORATOR (construction)

Covers surfaces of buildings with decorative and protective material such as paint, wallpaper or fabric:

Determines quantity of materials required by measuring surface or reviewing job specifications on work order. Places dropsheets and applies masking tape to protect areas from paint spattering or sets up pasteboard for paperhanging. Removes old paint and paper and smooths surfaces using sandpaper. Fills nail holes and cracks and seals joints with putty, plaster, tape or other filler using putty knife. Washes or brushes walls and ceilings as required. Selects premixed paints or prepares paint to match specified colours by mixing required portions of pigment, oil and thinning and drying additives. Brushes, rolls or sprays paint, varnish, stain or other decorative substance on surfaces. Measures, cuts and trims material such as paper, vinyl and drapery fabrics to required lengths. Brushes paste on back of wall covering such as paper, vinyl or fabric or moistens glued surfaces using water trough or wet sponge. Aligns strips of wall covering on wall in accordance with guidelines and smooths joints using dry brush or roller. Washes brushes, rollers and spray equipment with soap and water or solvent and cleans work area.

GED: 3 SVP: 7 PA: L 2 3 4 7 EC: B 6 7 DPT: 6 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	<u>3</u>	<u>3</u>	5	<u>3</u>	3	<u>3</u>	<u>3</u>	<u>2</u>			1 9	9 Y

8785-111 PAINTER-AND-DECORATOR APPRENTICE (construction)

Performs duties of 8785-110 PAINTER AND DECORATOR (construction) on a progressive basis according to a training schedule.

8785-114 PAPERHANGER (construction)

Covers interior walls and ceilings with materials such as paper, vinyl, carpeting and drapery fabrics for decorative purposes:

Estimates quantity of wallpaper or fabric required to cover surface. Erects scaffolding and sets up pasteboard. Removes old paper or other finish with scraper, water and chemicals. Cleans surface, fills cracks and holes with plaster, putty or other fillers, and smooths rough spots with sandpaper. Sprays or brushes acetic acid on damp plaster to neutralize lime effect. Brushes sizing on porous surfaces to seal and waterproof surface. Measures surface to be covered and cuts wallpaper or fabric in required lengths, ensuring that design matches. Trims rough edge from strips, using straightedge and trimming knife. Mixes paste to desired consistency and applies it to back of wallpaper or fabric, using wide brush. Peels protective layer from back of pre-glued wallpaper, and moistens glued surface, using water trough or wet sponge. Marks vertical guideline on wall to align first strip, using plumb bob and chalk line. Places paste-coated strips on wall or ceiling, and matches adjacent edges of designs on strips. Smooths covering with dry brush or felt-covered roller to remove wrinkles or bubbles. Smooths joints with roller, and trims ends of fabric overlapping ceiling and baseboard lines, doors and windows.

GED: 3 SVP: 6 PA: L 2 3 4 7 EC: I 6 DPT: 6 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	3	<u>3</u>	<u>3</u>	4	<u>3</u>	3	<u>3</u>	<u>3</u>	<u>3</u>			1 9	9 Y

8785-118 PAINTER, ROUGH (construction)

Applies paint, varnish, enamel, and similar protective materials to exteriors and interiors of industrial plants or other structures such as factories, sheds, structural steel framework of buildings, storage tanks, bridges, highway guard rails and machinery:

Erects scaffolding, cradles, ladders and other equipment to form work platform. Prepares surface by removing old paint, using blowtorch or liquid paint remover and scraper. Cleans and smooths surface, using wire brush and sandpaper. Selects premixed paints or prepares paint to match specified colours by mixing required portions of pigment, oil and thinning and drying additives. Brushes, rolls or sprays surfaces such as walls, ceilings and girders to cover with paint.

GED: 3 SVP: 5 PA: M 2 3 4 7 EC: B 6 7 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	4	<u>4</u>	5	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	3			1 3	2 Y

8785-120 PAINTER (construction)

Applies paint, varnish, stain, enamel or lacquer to decorate and protect interior and exterior surfaces of buildings:

Covers surfaces to be protected from paint with dropsheets and masking tape. Positions ladders or erects scaffolding to reach places inaccessible from ground level. Prepares walls, woodwork and other surfaces by sanding rough spots, filling holes and cracks with filler, and cleaning surfaces with cloth or brush. Selects precoloured paints and mixes paint using paddle or electric mixer. Applies paint or related materials to walls, ceilings, doors, window frames and trim, using hand and mechanical applicators. Cleans equipment, brushes and rollers in var-sol, soap and water or other solvents. Cleans work area when painting has been completed.

GED: 3 SVP: 4 PA: L 2 3 4 7 EC: B 6 7 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	4	<u>3</u>	4	<u>3</u>	4	<u>3</u>	<u>3</u>	3			1 3 9	9 Y

8785-121 LINE-PAINTING MACHINE OPERATOR (construction)

Operates truck mounted line-painting machine to paint traffic lines on highways, streets, runways and similar road surfaces:

Pours phosphorescent beads into tank of line-painting machine and fills other tanks with paint from stationary drums, using hose. Connects line-painting machine to vehicle at work location. Manipulates gears to start compressor; checks temperature, using thermometer; and adjusts valve to regulate pressure. Activates line-painting machine by relaying operational instructions to truck driver, using two-way radio, and manipulating hand controls to regulate width and volume of paint spray according to guide-lines. Adjusts switches to paint notices on pavement, using stencils. Controls automatic cone ejector to mark freshly painted areas. Cleans equipment and spray nozzles with solvents.

GED: 2 SVP: 4 PA: M 3 4 7 8 EC: O 6 DPT: 6 6 3

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	4	<u>3</u>	4	<u>3</u>	4	<u>4</u>	4	4			3 1	3 Y 2

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8785-122 PAINTER AND DECORATOR HELPER (construction)

Helps painter and decorator prepare surfaces for application of decorative and protective material such as paint, wallpaper or fabric: Unloads equipment and material from truck and arranges and assembles ladders, scaffolding, platforms and swing stages at work site. Places dropsheets over shrubbery, furniture or floors and applies masking tape to areas such as windows and doors, to protect them from paint spattering. Removes old paper with scraper, water and chemicals. Removes old paint using paint remover, scraper, wire brush or blowtorch. Washes surfaces as required. Smooths uneven surfaces with sandpaper, steel wool or wire brush. Fills cracks, crevices and holes with putty, plaster or other materials. Fills spray equipment with paint. Moves equipment and materials as work progresses. Cleans brushes, rollers and equipment using soap and water or solvent. Cleans area of spattered paint and dirt. See also definition for term title, 02-160 HELPER (any ind.)

GED: 2 SVP: 3 PA: M 2 3 4 EC: B 6 7 DPT: 6 6 4

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
4	4	5	4	<u>4</u>	5	<u>4</u>	4	<u>3</u>	<u>3</u>	4	1 3
											2 3

8785-126 PAVEMENT STRIPER (construction)

Guides self-propelled hand operated paint spraying machine to paint stripes on crosswalks, curbing, indoor and outdoor parking areas and game courts: Pours paint from container into supply tank of machine. Pushes machine to starting point and aligns indicator on machine with guide lines stretched or marked on surface to be painted. Adjusts metering device and nozzles to regulate width and volume of paint spray, using hand tools. Starts motor and moves clutch and throttle levers on handle bars to drive machine. Walks behind machine, observes course indicator, and pushes or pulls on handle bars to guide machine on designated path. Cleans equipment and spray nozzles by flushing system with solvent and compressed air.

GED: 2 SVP: 2 PA: M 3 4 7 8 EC: O DPT: 6 8 3

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
4	4	5	4	<u>3</u>	5	<u>4</u>	4	<u>3</u>	<u>3</u>	4	3 1
											2 3

8785-130 BILL POSTER (bus. serv.)

Pastes advertising posters to walls and billboards with long-handled brush: Drives truck to work location. Carries equipment, supplies and tools to billboard area. Positions ladder against deck of elevated billboard or erects scaffolding. Removes old poster, using long-handled scraper. Mixes powdered compound and water to make glue or fills bucket with premixed glue. Smears glue on billboard or wall with brush. Aligns poster sections on billboard and smooths and cleans poster with brush and water. Dismantles and loads equipment into truck. Observes billboard for damaged sections, and reports any irregularities for repair by maintenance crews. Maintains records, such as dates posters installed.

GED: 2 SVP: 2 PA: M 2 3 4 EC: O 4 6 DPT: 6 8 4

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
4	4	4	4	<u>3</u>	4	<u>4</u>	4	<u>3</u>	<u>3</u>	5	1 3
											2 3

8785-199 OTHER PAINTERS, PAPERHANGERS AND RELATED OCCUPATIONS

This residual group includes painters, paperhangers and related workers not presently classified in Unit Group 8785.

8786-INSULATING OCCUPATIONS, CONSTRUCTION

This unit group includes occupations concerned with applying insulating materials to buildings, exposed surfaces of heating and cooling equipment and underground wires and cables to prevent or reduce the passage of heat, cold or sound. Activities include injecting or spraying foamed insulation on structures; covering exposed surfaces of equipment with asbestos, polyurethane and cork or other insulating materials; and fitting and fastening batts and foamed slabs in place.

8786-110 FOAMED-INSULATION APPLICATOR (construction)

Sets up and operates equipment to inject or spray foamed insulation on structures to reduce passage of air, heat, cold, sound and moisture: Examines specifications to determine type and depth of insulation to be sprayed and areas to be covered. Mixes specified materials manually or mechanically using basic knowledge of ingredients used, such as resins, solvents and lubricants. Directs and assists other workers to drill holes in mortar joints or other surfaces, in specific pattern, to inject foam into cavities between walls. Erects scaffolding or ladders to reach areas inaccessible from ground or floor level. Assembles equipment such as compressor, drums, dispenser, hose and gun, and connects units together, using hand tools. Pours liquid and crystal chemicals into supply containers or pumps premixed foam from drums into containers. Turns valves to regulate flow of air, chemicals and catalyst, using knowledge of chemical mixing. Pulls trigger on dispensing unit and directs spray or foam insulation onto work surface through access holes between walls. Observes foam insulation to ensure ingredients are mixed and applied as specified. Listens for direction from another worker watching flow of insulation into remote areas. Cleans equipment, using solvent and brush.

GED: 3 SVP: 6 PA: M 2 3 4 6 EC: I 6 DPT: 6 6 4

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
3	4	4	<u>4</u>	4	5	<u>3</u>	4	<u>3</u>	4	4	9 1
											0 Y

8786-111 INSULATOR APPRENTICE (construction)

Performs duties of insulators such as: 8786-110 FOAMED-INSULATION APPLICATOR (construction); 8786-114 BOILER AND PIPE INSULATOR (construction); and 8786-122 REFRIGERATION AND AIR-CONDITIONING-EQUIPMENT INSULATOR (construction) on a progressive basis according to a training schedule:

8786-114 BOILER AND PIPE INSULATOR (construction)

Covers exposed surfaces of pipes, steam generators, ducts, process vats and related equipment with a variety of insulating materials such as

asbestos, felt or polyurethane to reduce loss or absorption of heat, prevent moisture condensation and deaden sound:

Examines specifications to determine placement and insulation requirements. Cuts insulating materials to required lengths using hand tools such as knife, scissors, saw or power tools. Wraps insulating material around pipes and secures with staples, wire or strapping. Fits and tapes preformed insulation around pipes, if required. Binds wire netting around object being insulated to hold insulation in place or to form reinforced base. Trowels insulating material over wire netting. Fabricates and installs detachable covers for valves. Spot welds or screws insulating material over large units such as boilers and precipitators, as required. Brushes waterproofing cement over surface and presses insulation material into place. Seals joints with tape. Covers insulated surfaces with plaster of paris or cement to protect insulation.

GED: 3 SVP: 6 PA: M 2 3 4 EC: B 5 6 7 DPT: 6 8 4

APT.													INT.	TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
3	4	4	<u>4</u>	4	5	<u>3</u>	<u>4</u>	<u>3</u>	3	5		1	9	0	Y

8786-118 BUILDING INSULATOR (construction)

Installs insulating material such as fibreglass batts and rigid foam panels to walls, floors, and ceilings of buildings to prevent or reduce passage of heat, cold or sound:

Examines plans and specifications to determine type and quantity of insulation required and location of insulation materials to be installed. Sets up scaffolding or ladders for areas inaccessible from floor level. Nails furring strips to walls and ceilings to provide base for fastening insulation, as required. Cuts insulation material to required length, width and shape using knife, shear, or hand and power saw. Nails or staples bat-type insulation to joists, studs or furring. Staples vapour barrier sheeting to studs. Fits insulation around obstructions such as pipes and wiring to prevent circulation of air. Glues insulating blocks and slabs of foamed plastic or cork to walls, as required. Fits friction-fit batts between studs or joists, as required.

GED: 3 SVP: 6 PA: M 2 3 4 EC: I 6 7 DPT: 6 8 4

APT.													INT.	TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
4	4	4	<u>4</u>	4	5	<u>3</u>	4	<u>3</u>	4	5		1	9	0	Y

8786-122 REFRIGERATION AND AIR-CONDITIONING-EQUIPMENT INSULATOR (construction)

Applies insulating materials such as asbestos, fibreglass, polyurethane and cork on and around refrigeration and air-conditioning-equipment, to reduce absorption of heat, and to prevent moisture condensation:

Examines specifications to determine insulation requirements. Cuts, shapes, trims, and smooths insulating sheets and blocks to cover and fit parts of equipment such as expansion chambers, condensers, and piping. Wraps or fits insulating materials around air-conditioning ducts, and trims materials with scissors or shears. Brushes or sprays waterproof cement over insulating material. Secures insulation with wire, wire netting, staples, metal strapping or using welding torch. Trowels plaster over wire netting and wraps canvas strips over plaster. Packs cavities in walls or partly assembled casing with loose particles of insulating material. Installs prefabricated insulating assemblies, using hand tools and metal fasteners.

GED: 3 SVP: 6 PA: M 2 3 4 EC: I 6 7 DPT: 6 8 4

APT.													INT.	TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
4	4	4	<u>4</u>	4	5	<u>3</u>	4	<u>3</u>	4	5		1	9	0	Y

8786-124 DUCT LAYER (construction)

Installs plastic ducts in excavated trench to protect, insulate and waterproof channels for underground wires or cables:

Examines specifications to determine type and position of ducts to be laid. Spreads layer of mortar over prepared surface or assists other workers to position grooved cement blocks in trench. Places duct sections in mortar or grooved blocks. Connects tapered duct sections by hand and applies wire clamps to hold in position. Spreads mortar or places grooved blocks over ducts. Lays group of ducts side by side or in tiers, using different lengths of conduit to avoid weak joints. Operates air compressor equipment in accordance with specifications to blow cables into plastic pipe. Fills in trench using shovel and rake.

GED: 3 SVP: 4 PA: H 2 3 4 EC: O 6 DPT: 6 8 4

APT.													INT.	TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
3	4	4	<u>4</u>	<u>4</u>	4	<u>3</u>	4	<u>3</u>	4	5		9	1	0	Y

8786-126 INSULATION BLOWER (construction)

Blows insulating material such as mineral wool loose-fill and wood fibre-fill into spaces within walls, floors and ceilings of homes and commercial buildings to prevent or reduce passage of heat, cold or sound:

Examines specifications to determine amount and type of insulation material required. Sets up equipment by connecting hose to blower, filling supply chamber with insulation, and stringing hosing from supply to work area. Erects or climbs scaffold or ladder to reach work area. Drills holes in wall using power or hand tools. Inserts nozzle of hose through opening into spaces to be filled. Signals engine attendant or operates remote control switch to start blower. Manipulates hose to distribute insulating material uniformly. Applies panel or batt-type insulations, if specified on work order. Sprays walls and ceilings with adhesive sound-absorbing material, if required.

GED: 2 SVP: 3 PA: M 2 3 4 EC: B 3 6 7 DPT: 6 6 4

APT.													INT.	TEMP.		
G	V	N	S	P	Q	K	F	M	E	C						
4	4	4	<u>4</u>	4	5	<u>4</u>	4	<u>3</u>	4	5		1	9	3	2	0

8786-130 INSULATION - BLOWER HELPER (construction)

Helps set up and tend equipment to blow insulating materials such as mineral wool, loose-fill and wood fibre-fill into spaces within walls, floors and ceilings of structures to prevent or reduce passage of heat, cold or sound:

Conveys equipment, tools and materials to work site. Assists in assembling scaffolding or setting up ladders. Assists in setting up blower by filling supply chamber with insulation material, connecting water and power supply and stringing hose to work area. Monitors controls of blower to ensure correct pressure is maintained and feeds insulation into chamber, as required. Blows out hose with compressed air and cleans tools and equipment. Dismantles scaffolding and cleans up work area. See also definition for term title, 02-160 HELPER (any ind.).

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GED: 2 SVP: 2 PA: M 2 3 4 EC: B 3 6 7 DPT: 6 6 5

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	4	4	4	4	5	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	5			3	1			2	3

8786-199 OTHER INSULATING OCCUPATIONS, CONSTRUCTION

This residual group includes insulating workers not presently classified in Unit Group 8786.

8787-ROOFING, WATERPROOFING AND RELATED OCCUPATIONS

This unit group includes occupations concerned with covering roofs and other exterior surfaces of structures with weatherproof materials such as asphalt, metal sheathing, shingles and other materials; installing flashings, eavestroughing and vents; applying caulking and waterproofing compounds to structures; and covering pipelines with corrosion-resistant materials. Activities include: positioning, aligning and securing roofing paper, shingles, sheet metal, flashing and similar materials; spreading gravel and hot asphalt or tar; caulking joints of interior and exterior surfaces; brushing or spraying waterproofing compounds on surfaces such as building foundations, swimming pools and tunnels; and operating equipment to clean, coat and wrap pipelines.

8787-110 ROOFER, METAL (construction)

Covers roofs of structures with sheet metal such as aluminium, copper and galvanized metal to form protective and waterproof surface: Studies specifications and work site to estimate material requirements and plan layout for roofing. Selects and marks sheet metal according to plan or other specifications. Cuts sheets following marking pattern or template, using bench shears, metal-cutting-power saw, or hand shears. Folds or bends metal to fit angles and curves in roof or form joints, using bending roll, brake machines and hand tools. Applies protective coating to underside of metal, using brush or spray. Fits or interlocks metal sheets in position on roof. Welds, brazes, solders, bolts, rivets, screws or crimps metal sheets to secure in place. Directs and assists helper to apply sealing compound to overlapping joints to form waterproof seams. Cuts, shapes and fits channels for rain-water pipes and installs metal cornices, in accordance with specifications.

GED: 3 SVP: 6 PA: M 2 3 4 EC: O 6 DPT: 4 6 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	3	<u>3</u>	<u>3</u>	<u>3</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	4			1	9			0	Y

8787-112 PIPE-CLEANING-AND-COVERING-MACHINE OPERATOR (construction)

Operates machine to clean, coat and wrap gas, oil and other pipelines with corrosion-resistant materials working as crew member: Selects cleaning and priming heads to fit pipe, and bolts them to machine-driven pulley. Bolts scraping knives and steel wire brushes to

inside of cleaning head, and bristle brushes inside priming head. Adjusts spring tension on knives and brushes with hand tools. Directs machine feeder to load rolls of glass fabric and felt paper on machine mount. Signals operator of tractor to lift and slide cleaner and priming mechanism over end of pipe. Starts engine and moves levers to rotate cleaning and priming heads around pipe, and to propel machine along pipeline. Turns valve to start and regulate flow of coating material such as hot asphalt, onto pipe surface. Directs machine loader to hold end of wrapping strip against pipe until machine takes over. Moves levers to activate mechanism that winds wrapping material in spiral around pipe. Adjusts brake tension on paper reels with hand tools to ensure tight wrapping. Seals wrapping with liquid coating. Operates machine with single function to either clean, coat or wrap pipes, as required.

GED: 3 SVP: 5 PA: M 3 4 8 EC: B 5 7 DPT: 6 6 2

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	5	<u>4</u>	<u>4</u>	5	<u>3</u>	<u>4</u>	<u>3</u>	<u>4</u>	5			9	1			Y	0

8787-114 ROOFER, WOOD SHINGLE (construction)

Covers structures with wood shingles to form waterproof surface: Examines drawings, specifications and work site to determine materials required. Directs and assists helpers to erect ladders or scaffolds and carry shingles and supplies to roof. Places and secures plastic strip at eaves to form moisture-proof barrier. Nails or staples roofing underlay such as roofing paper, felt or other insulating materials to roof. Aligns starter row of shingles with edge of roof, and secures with staples or nails. Overlaps successive layers, gauging distance with chalk line, straight edge, shingling hatchet or lines on shingles. Cuts and fits shingle pieces to fit corners and around structures, using hand saw. Cuts, fits and secures metal flashing or pre-formed flashing into angles formed by walls, chimneys, vents and intersecting roof surfaces, using hand tools, shears, cement or nails. Caulks exposed nail-heads and flashing to prevent leaks, using sealant or caulking gun, if required.

GED: 3 SVP: 5 PA: M 2 3 4 EC: O 6 DPT: 4 6 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	3	<u>3</u>	<u>4</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	4			1	9			0	Y

8787-118 ROOFER, ASPHALT (construction)

Applies roofing paper, hot asphalt or tar, and gravel to roof to provide a protective and waterproof covering: Estimates materials according to plans and specifications. Measures and marks reference points on roofing paper according to roof size and shape. Cuts roofing paper to fit corners, chimney base and other fixtures. Installs steel pipes between melting kettle on ground and storage container on roof and signals helper to start equipment to pump hot asphalt or tar. Spreads hot asphalt or tar over roof to form base, using spreader machine or mop and brush. Staples or nails overlapping strips of roofing paper to cover roof. Applies alternate layers of hot asphalt or tar and roofing paper until roof covering is built up as specified. Cuts, fits and nails strips of sheet metal, insulating material or preformed flashings in angles between walls, chimneys or vents and roof surface. Applies heavy coat of hot asphalt or tar over top layer of roofing paper and spreads gravel over entire surface to form final protective coating.

GED: 3 SVP: 5 PA: M 2 3 4 EC: O 6 DPT: 4 6 4

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
3	4	4	4	4	5	4	4	3	3	5			1	9		0 Y

8787-119 ROOFER APPRENTICE (construction)

Performs duties of 8787-118 ROOFER, ASPHALT (construction) on a progressive basis according to a training schedule.

8787-120 EAVESTROUGH INSTALLER (construction)

Fabricates and installs aluminium, copper and galvanized eavestroughing on residential, commercial and industrial buildings: Measures roof edge to determine required lengths of eavestroughing and marks location of downspouts. Forms seamless eavestroughing from pre-cut roll of aluminium, using roll forming machine. Cuts required lengths, corners and holes for downpipes, using tin snips. Fits, solders and rivets lengths and corners of eavestroughing to assemble, using hand and power tools. Applies sealant to joints, using brush or caulking gun. Nails or screws eavestroughing to fascia board on roof. Assembles and inserts drainpipes in troughing and secures pipes to wall, using metal strapping and nails or rivets. Attaches elbow to bottom of drainpipe to direct water away from building or connects drainpipes to waste disposal system. Removes old eavestroughing, using wrecking bar and hammer.

GED: 3 SVP: 4 PA: M 2 3 4 EC: O 6 DPT: 4 6 4

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
4	4	4	4	4	5	4	4	3	3	5			1	3		2 Y 0

8787-122 WATERPROOFER (construction)

Applies coats of waterproofing material to surfaces of underground structures such as building foundations, parking areas, tunnels and swimming pools to prevent water penetration: Examines specifications and work site to estimate material requirements. Assists helper to prepare surfaces to be waterproofed by repairing large holes, removing rough projections, roughing glazed surfaces and cleaning surfaces of grit, using mortar mix and trowel, hand tools and air compressor. Mops, brushes or sprays sealant such as, asphalt paint, emulsified asphalt, plastics and silicones on interior and exterior surfaces to form protective coating. Covers surface with waterproofing fabric embedded in waterproofing compound, if required.

GED: 3 SVP: 4 PA: M 2 3 4 EC: B 4 6 DPT: 6 6 4

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
4	4	4	4	4	5	4	4	3	4	5			3	1 9		2 Y 0

8787-124 ASPHALT SHINGLER (construction)

Covers roofs with asphalt shingles to form waterproof surface: Hoists or carries shingles and other supplies to roof. Staples roofing paper to roof framework. Nails polyethelene waterproofing sheets over eaves. Aligns first row of shingles with edge of roof and overlaps successive layers, gauging distance with chalk line or by lines on shingles. Nails or staples shingles to roof. Cuts shingles to fit around vent stacks, chimneys and corners with knife, and fastens to roof. Cuts and bends shingles to fabricate ridge capping for roof peaks and nails in place. Cuts strips of flashing with tin snips and nails flashing into angles formed by walls, vents, and intersecting roofs. Slips shingles under prefabricated chimney flashing and nails flashing down. Cleans up debris when roof is finished.

GED: 2 SVP: 4 PA: M 2 3 4 EC: O 6 DPT: 6 8 4

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
4	4	4	4	4	5	4	4	3	3	4			3	1		0 Y 2

8787-126 ROOFER HELPER, ASPHALT (construction)

Helps workers apply protective covering of hot asphalt, tar and gravel to roof surface: Erects ladders or scaffolds to provide access to roof, or assists in erecting hoists on buildings to raise and lower materials and equipment. Cleans roof of obstructions such as stones, old roofing and other debris, using broom and shovel. Conveys supplies to other workers by hand or utilizes equipment such as wheelbarrow and power hoist. Spreads layers of roofing paper or felt on roof surfaces in overlapping pattern, by hand or using paper-laying machine. Assists roofer to install steel pipes between tar kettle and storage container on roof. Erects drop-sheets to protect sides of building and vegetation from roofing spray. Tends kettle which heats asphalt, tar or other corrosion-resistant compound into liquid form. Monitors pumping equipment which pipes liquid substance to roof surface. Applies hot asphalt or tar to roof surface and between layers of roofing paper or felt, using bucket, mop and brush, or equipment such as spreader and spray machine. Spreads gravel over entire surface to form final protective coating, using bucket, shovel and rake or spreading machine. Removes tar or asphalt from tools by heating or by using solvent. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 3 PA: H 2 3 4 EC: O 3 6 7 DPT: 6 8 5

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
4	4	5	4	4	5	4	4	3	3	5			1	3 9		3 2

8787-127 PIPE DOPER (construction)

Coats joints of prewrapped sections of pipelines with corrosion-resistant material (dope) and wraps joints with tape, polyvinyl chloride or other materials to form protective coating against electrolytic decomposition of metal: Files sharp edges or lumps to produce smooth surface on pipe joints. Brushes primer over pipe joints. Heats tape to melt underside, using propane torch, as required. Wraps tape or other materials around pipe, pulling it tight, and pressing ends down to embed materials in dope. Scans pipe surface to detect flaws and bare spots, using holiday detector. Coats, wraps, or installs sleeves on areas of pipes inadequately covered by pipe-wrapping machine.

MAJOR GROUP 87

GED: 2 SVP: 3 PA: M 3 4 EC: O 3 4 6 7 DPT: 6 8 7

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 4 4 5 4 4 3 5 5	1 9	2 3

8787-128 CAULKER (construction)

Seals seams, expansion joints and crevices of exterior and interior areas of structures with caulking compound to prevent entry of air or moisture, using caulking gun:

Places filled cartridge in gun chamber, or inserts gun magazine into caulking compound and pulls plunger to load gun. Guides gun nozzle along crevices and presses lever of gun to discharge compound into cracks around doors, windows, pipes and conduit and between roof and walls to waterproof and prevent loss of heat. Caulks around bathtubs, shower enclosures and sinks, using caulking gun, trowel or knife. Squeezes tube manually to direct primer or conditioner in joints between pre-cast concrete forms. Packs sealant compounds in expansion joints or large cracks by hand. Sprays sealant to waterproof areas such as garage grease pits and swimming pools, using hose and compressor tank.

GED: 2 SVP: 2 PA: L 2 3 4 EC: B 6 DPT: 6 8 4

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 4 4 5 3 4 3 4 5	1 3	2 3

8787-130 WATERPROOFER HELPER (construction)

Helps waterproofer apply waterproofing material to surfaces of underground structures to prevent water penetration:

Conveys materials and tools to work site and erects and rigs scaffolds and hoists to form work platform. Removes rough projections, using hammer and chisel, and scores glazed surfaces, using rubbing brick or other portable abrasive device. Cleans surfaces such as swimming pools or foundations of buildings of dust and grit by brushing or tending air-compressor. Assembles tools and materials such as spray guns, brushes, mops and compounds required for waterproofing. Heats waterproofing materials, using portable heating unit. Carries supplies to waterproofer and helps place sheets of waterproofing fabric over areas to be protected. Tends compressor or pump that feeds materials to spray gun. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 2 PA: H 2 3 4 EC: B 4 6 DPT: 6 8 7

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 5 4 4 5 4 4 3 4 5	3 1 9	2 3

8787-199 OTHER ROOFING, WATERPROOFING AND RELATED OCCUPATIONS

This residual group includes roofers, waterproofer and related workers not presently classified in Unit Group 8787.

8791-PIPEFITTING, PLUMBING AND RELATED OCCUPATIONS, N.E.C.

This unit group includes occupations concerned with installing and repairing pipelines, plumbing, fire protection equipment and related equipment for distributing water, gas, steam, sewage or other materials. Activities include: measuring, cutting, threading and bending pipe; assembling and joining piping to fixtures; cementing, soldering, and welding pipe sections together; caulking joints; testing installation and laying tiles or plastic piping. Occupations concerned with installing and maintaining plumbing and pipefitting systems integrated with specific equipment, such as ships, railway rolling stock, and aircraft are classified in their appropriate unit groups in Major Group 85, PRODUCT FABRICATING, ASSEMBLING AND REPAIRING OCCUPATIONS.

8791-110 PIPE FITTER (construction)

Lays out, fabricates, installs and maintains high- and low-pressure systems of piping and fittings for conducting steam, water, oil, and other liquids and gases used in heating, cooling, lubricating and other industrial processing systems:

Studies building plans and specifications to determine materials and layout of system. Selects type and size of pipe and related materials required. Plans sequence of work to coordinate pipefitting installation with other construction work. Cuts openings in structures to accommodate pipes and pipe fittings. Measures, cuts, threads and bends pipe to required size and shape using hand tools and machines, including pipe cutters, pipe threading and bending machines and flame cutters. Assembles and installs variety of metal and non-metal piping, such as those made of copper, lead and plastic. Welds, threads, cements or solders pipe sections together. Secures pipes in position using clamps, brackets and hangers. Connects pipes to equipment and appliances such as refrigeration, air conditioning, and industrial processing units. Tests pipe system for leaks using compressed air, water, chemical or gas. Maintains and repairs pipe system by cleaning and replacing pipes, units and fittings.

GED: 4 SVP: 8 PA: H 2 3 4 7 EC: I 4 6 7 DPT: 3 6 1

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 3 3 3 4 4 3 3 3 3 4	1 9 0	0 Y

8791-111 PIPE FITTER-STEAM FITTER APPRENTICE (construction)

Performs duties of pipefitting and steamfitting occupations such as 8791-110 PIPE FITTER (construction), 8791-112 STEAM FITTER (construction) and 8791-126 STEAM-MAIN SERVICER (utilities, n.e.c.) on a progressive basis according to a training schedule.

8791-112 STEAM FITTER (construction)

Assembles, installs and services piping systems for steam in all types of buildings:

Studies specifications to determine layout of system and materials and work aids required, using knowledge of high- and low-pressure systems and pressure capacities of piping materials. Measures, cuts, threads and installs pipes, valves, gauges and other fixtures, using hand tools, pipe cutter, pipe-threading machine and pipe-bending machine. Cuts or drills holes in walls or ceiling to accommodate pipe hook-up where necessary. Installs anchors, brackets and hangers to secure pipes to walls or ceiling, using power-activated fastener, or drill and hammer. Joins pipes using couplings, flanges, unions and elbows. Positions joined pipes on brackets or flange and attaches sections together, using plumber's tools and accessories. Connects heat radiators to pipes using wrenches and couplings. Fastens radiators to structure with bolts and screws. Connects heating system to pump and boiler using flanges, electric drill, bolts and wrenches. Tests steam system using compressed air and precision instruments. Performs general maintenance and repair duties when required.

GED: 4 SVP: 8 PA: H 2 3 4 7 EC: 1 4 6 7 DPT: 3 6 1

APT.													INT.	TEMP.			
G	V	N	S	P	Q	K	F	M	E	C							
3	3	<u>3</u>	<u>3</u>	<u>4</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>				1	9	0	0	Y

8791-114 PLUMBER (construction)

Assembles, installs and repairs pipes, fixtures and fittings used for water distribution and waste disposal in homes, schools, and public and industrial buildings:

Examines building plans and specifications to determine layout of plumbing system, including water supply network, hot water facilities, sewage, waste, drainage and plumbing fixtures. Locates and marks position for connections, passage holes and fixtures in walls and floors, using ruler, spirit level and plumb-bob. Cuts holes through walls and floors to accommodate pipes, using hand and power tools. Measures pipe with tape or rule and marks cutting or bending lines on pipe. Cuts and threads pipe, using pipe cutters, hack saws, flaring tools, and pipe-threading tools or machine. Bends pipe when required using pipe-bending tools. Assembles and installs piping, valves and fittings made of such metals as iron, steel, lead or copper, and non-metallic materials such as plastic, glass or vitrified clay. Joins pipe sections using fittings, couplings, elbows, solder, screws, bolts and clamps. Secures pipes in position using brackets and hangers. Tests lines as required by local plumbing code, using smoke test, compressed air or water. Installs domestic plumbing fixtures such as toilets, wash basins and baths, or industrial plumbing fixtures such as restaurant kitchens or photographic processing laboratories. Connects components, including water supply, control valves, fixtures and drainage, to form complete plumbing system. Maintains and repairs installed plumbing systems by tracing and rectifying defects, replacing broken pipes and fixtures, soldering and caulking leaks, clearing choked waste pipes and traps, and thawing frozen lines.

GED: 4 SVP: 8 PA: H 2 3 4 7 EC: 1 4 6 7 DPT: 3 6 1

APT.													INT.	TEMP.			
G	V	N	S	P	Q	K	F	M	E	C							
3	3	<u>3</u>	<u>3</u>	<u>4</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	5			1	9	0	0	Y

8791-115 PLUMBER APPRENTICE (construction)

Performs duties of 8791-114 PLUMBER (construction) on a progressive basis according to a training schedule.

8791-118 PIPE FITTER, WELDING (construction)

Assembles and installs piping and fittings, and fuses joints using acetylene, arc, atomic and oxy-hydrogen welding equipment:

Examines drawings and other specifications to determine piping layout, and type and standard of welded joint. Measures distances and marks reference points on piping and structures to lay out work. Cuts threads and bends pipe as required to complete system. Assembles pipe sections and secures pipe assembly in place with clamps, brackets and hangers. Applies heat to join and weld joints together using welding equipment. Grinds welded area smooth using power grinder. Tests pipes for leaks using pressure gauge. Fabricates fixtures and brackets from sheet, bar and pipe stock.

GED: 4 SVP: 8 PA: M 2 3 4 EC: B 5 6 7 DPT: 3 8 1

APT.													INT.	TEMP.			
G	V	N	S	P	Q	K	F	M	E	C							
3	3	<u>3</u>	<u>3</u>	<u>4</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>				1	9	0	0	Y

8791-119 FIRE-PROTECTION INSTALLER (construction)

Connects and installs pipes and cylinders to form a chemical or gaseous sprinkler system in locations such as computer rooms and restaurant grills:

Studies plans and specifications to determine the layout of pipes, cylinders and thermostats which may be concealed beneath floor or exposed on wall. Attaches clamps or brackets used as pipe supports using bolts and wrench. Connects sections of pipe using threaded fittings and wrench. Positions pipes in pipe-hangers and tightens connections. Connects small pipes and nozzles to main pipe as specified in plans, using plumber's tools. Attaches pressurized cylinder to position on wall. Connects cylinder containing dry chemical or gas to pipe system by joining and tightening threaded fitting on top of cylinder using wrench. Installs and connects heat detectors or thermostats in fire protection systems as required.

GED: 4 SVP: 8 PA: H 3 4 7 EC: I DPT: 3 6 1

APT.													INT.	TEMP.			
G	V	N	S	P	Q	K	F	M	E	C							
3	3	<u>3</u>	<u>3</u>	<u>4</u>	4	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	5			1	9	0	0	Y

8791-120 SPRINKLER-SYSTEM INSTALLER (construction)

Installs piping and fixtures used in automatic sprinkler system to provide fire protection in buildings:

Studies blueprints and specifications to determine layout of sprinkler system. Arranges pipes on floor to duplicate blueprint layout. Erects ladders, scaffolding or operates hydraulic lift assisted by helper to gain access to work area. Installs pipe-hangers in ceiling using hammer, drill or power-activated fastener. Pushes and pulls pipes through hangers to correct position aided by helper, block and tackle, or fork lift. Joins threaded or grooved sections of pipe together, using plumber's tools, until system is complete. Screws sprinkler heads into position using wrench. Installs control and auxiliary equipment using plumber's tools. Connects sprinkler system to water supply with clamps or fittings, using hand tools. Installs piping to connect sprinkler system to city water supply, if required. Submits completed system to air- or water-pressure test to ensure proper operation.

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GED: 4 SVP: 8 PA: H 2 3 4 7 EC: I 4 6 DPT: 3 6 1

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 3 <u>3</u> <u>3</u> 4 4 <u>3</u> 3 <u>3</u> <u>3</u> 4	1 9 0	0 Y

8791-121 SPRINKLER-SYSTEM-INSTALLER APPRENTICE (construction)

Performs duties of sprinkler system installers such as 8791-120 SPRINKLER SYSTEM INSTALLER (construction) and 8791-119 FIRE-PROTECTION INSTALLER (construction) on a progressive basis according to a training schedule.

8791-122 GAS FITTER (utilities, n.e.c.)

Installs, tests and repairs gas lines, meters, regulators, units and appliances in residential, commercial and industrial establishments: Examines drawings and specifications to determine layout of installations and materials required. Measures and marks reference points for location of equipment such as domestic appliances, industrial furnaces or air-conditioning equipment. Installs gas meters and regulators by securing to walls and ceilings, and cuts openings in structures to accommodate pipes and fittings, using hand tools. Measures, cuts, threads, bends and installs gas supply and feeder pipelines between gas unit and meter. Installs vents and flues. Lifts and aligns components of gas unit into position. Connects components such as burners, valves, automatic controls and gas supply to complete installation. Tests and adjusts control mechanism such as thermostats, high-temperature limit controls and safety pilots. Turns on gas and inspects and tests pipelines and equipment to locate leaks and faulty connections and determine pressure and flow of gas, using manometer, voltmeter, combustible gas indicator, soap lather and grease. Replaces faulty forced-air-heating motors, gas meters, and meters requiring periodic servicing, using hand tools. Attends to gas-escape calls (leaks) by examining and repairing supply line, meters, appliances and controls, using gas detecting devices and hand tools. Advises customer of built-in safety features and standards, and answers questions relating to operation and maintenance of gas units and systems. Inspects utility and consumer owned equipment to ensure compliance with all relevant codes and safety requirements.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: B 6 DPT: 3 6 1

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 3 <u>3</u> <u>3</u> <u>4</u> 4 <u>3</u> 3 <u>3</u> <u>4</u> 4	1 9 0	0 Y

8791-123 GAS FITTER APPRENTICE (utilities, n.e.c.)

Performs duties of gas fitters such as 8791-122 GAS FITTER (utilities, n.e.c.) and 8791-130 GAS-MAIN AND LINE FITTER (construction; utilities, n.e.c.) on a progressive basis according to a training schedule.

8791-124 RESIDENTIAL CONSTRUCTION PLUMBER (construction)

Lays out, assembles and installs plumbing system, including water supply network, sewage system and plumbing fixtures in residential construction:

Examines blueprints and plans layout of plumbing systems. Cuts and drills holes for pipes in studs, floor and roof, using chain saw and electric drill as required. Cuts, joins, threads and vents plastic pipes to construct and install waste system, using pipe cutter, glue, elbows, reducers and other plumbing accessories. Installs flashings around roof vent terminal. Cuts, joins and secures copper pipe to construct and install water system, using metal pipe cutters, elbows, solder, metal brackets and nails. Tests lines, as required by local plumbing code, using compressed air or water. Positions and installs plumbing fixtures, including water closet, sinks, shower head and taps, using screwdriver, soldering iron and adhesives.

GED: 3 SVP: 6 PA: H 2 3 4 7 EC: I 4 6 DPT: 3 8 4

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 4 <u>4</u> <u>3</u> <u>4</u> 4 <u>3</u> 3 <u>3</u> <u>4</u> 5	1 9 0	0 Y

8791-126 STEAM-MAIN SERVICER (utilities, n.e.c.)

Installs, inspects and repairs steam mains and auxiliary equipment in steam heat distribution systems or steam power plants: Observes street surface above buried steam lines for evidence of leaks. Enters manholes periodically and examines steam lines and equipment for vapour leakage or loose connections. Turns valve to shut off steam, supply and releases steam from pipe section to be repaired, using valve key or wrench. Removes defective pipes or damaged sections. Cuts and threads pipe, using pipe cutters, dyes and threading machine. Places and fits pipe in previously dug ditch, overhead areas or on ground, and connects sections together, using couplings, expansion joints and bolts, or welding equipment. Installs or replaces auxiliary equipment such as pressure regulating valves, gaskets and steam traps, using pipefitting tools. Repacks expansion joints, and repairs steam traps or other defective equipment. Operates motorized pump to remove water from flooded manholes.

GED: 3 SVP: 6 PA: H 2 3 4 EC: B 3 4 6 DPT: 6 8 1

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 4 <u>4</u> <u>3</u> <u>4</u> 4 <u>3</u> 3 <u>3</u> <u>4</u> 5	1 9	0 Y

8791-130 GAS-MAIN AND LINE FITTER (construction; utilities, n.e.c.)

Lays pipe to extend and repair gas mains and install or repair service pipes supplying gas to consumers: Studies plans and excavation to determine layout of pipes. Drills hole in section of main to which new pipe will be fitted. Seals off flow of gas by turning line stopper, squeezing pipe with hydraulic press or inserting inflatable rubber bag sealer. Removes faulty pipe by unscrewing joints, or cutting with saw or pipe-cutting machine. Assembles pipe sections of main with couplings, bolts and screws, or by welding. Checks and adjusts gradient of pipe, using levelling instrument and blocks. Fastens steel cap over free end of gas-main extensions. Installs service line from main to consumer premises using couplings, bolts, screws, or by welding. Opens line stopper to release flow of gas from main to service line. Injects carbon dioxide or nitrogen into installed or repaired piping to purge line. Tests installation for leaks using gas detection instruments. Performs or directs associated activities such as digging and filling trenches for pipes.

GED: 3 SVP: 6 PA: M 3 4 7 EC: O 6 7 DPT: 6 6 1

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
3	4	4	<u>3</u>	<u>3</u>	4	<u>3</u>	4	<u>3</u>	4	4	0 Y

8791-134 MAINTENANCE WORKER, SEWER AND WATER MAINS (utilities, n.e.c.; water works)

Inspects, maintains and repairs municipal water-distribution and sewer systems:

Inspects water mains, meters, valves, fire hydrants and sewer lines to detect leaks or signs of equipment wear or malfunctioning. Locates hidden water leaks in lines, using electronic water-leak detector. Locates buried water mains, service lines, valves, and service boxes, using electronic metal detector. Installs shoring to support sidewalls of trenches prepared by back-hoe operator. Bolts leakproof collar or repair clamp to water main to stop leaks, using wrench. Installs packing material in fire hydrants and valves to make them watertight. Replaces defective water meters. Repairs breaks in water or sewer lines, by replacing damaged pipe sections and sealing joints. Opens clogged sewer lines, using rooting-machine that forces reaming tool through clogged pipe. Thaws frozen pipe sections, using steam hose or other heater. Drills and threads holes in sewers and water mains for service connections, using hand- or power-machine.

GED: 3 SVP: 6 PA: H 3 4 EC: O 4 7 DPT: 6 6 1

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
3	4	4	<u>4</u>	<u>4</u>	4	<u>3</u>	4	<u>3</u>	4	5	0 Y

8791-136 PIPELINE-MAINTENANCE WORKER (trans., n.e.c.)

Maintains and repairs pipeline systems, pumping stations and yards, working as a member of crew:

Walks along designated section of pipeline to detect leaks and ensure equipment is in proper working order. Operates equipment such as back-hoes, bulldozers and side booms to dig ditches, lay pipe and back-fill trenches. Drives trucks and vehicles adapted to snow and muskeg to transport personnel and supplies. Positions materials, pipes, fittings and pumping equipment for carpenters, mechanics and welders. Installs screw-pipe and manifold connections, using wrenches and pipe tongs. Operates and maintains small lighting plants, hot-dope plants, portable pumps, compressors, steam cleaners, pipe cutters and repair clamps. Brushes corrosion-resistant material on pipe, or covers pipe with paper or plastic sheeting either by hand or using machine to deter corrosion. Services pump unit in pumping station by changing oil and checking seals. Repairs or replaces defective parts to pump-station equipment and cleans tanks.

GED: 3 SVP: 5 PA: H 2 3 4 EC: B 6 7 DPT: 6 6 3

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
4	4	5	<u>3</u>	4	5	<u>3</u>	4	<u>3</u>	<u>3</u>	5	0 Y

8791-138 PIPE LAYER (construction)

Works as member of a crew which lays pipes made of clay, concrete, cast iron, plastic or other materials to form storm or sanitation sewers, drains, water mains or other pipe lines:

Measures pipe using ruler, and cuts to required length, if necessary,

using pipe cutter or chisel. Grades and smooths bottom of trench or culvert to specified elevation. Guides pipe section into position as it is lowered into trench by hand, or by using rope, hoist or crane. Inserts spigot end of pipe into bell end of previously-laid section. Adjusts pipe to line and grade using plumb-bob and pole, and secures pipe in position, using blocks or sand bags. Inserts gaskets and bolt ends of flanged pipe section together. Operates ratchet that connects ends of threaded pipes. Inserts clamps and holds ends of abutting pipe sections together for welding. Forces oakum, joint runners or lead into bell joints, or fills joints of concrete and clay pipes with cement mortar to form seal.

GED: 3 SVP: 5 PA: H 3 4 EC: O 4 6 DPT: 6 8 4

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
4	4	4	<u>4</u>	<u>4</u>	4	<u>3</u>	4	<u>3</u>	4	5	0 Y

8791-140 BENDING-MACHINE OPERATOR, PIPELINE (construction)

Sets up and operates machine to bend large diameter gas and oil pipe sections in required direction to fit trench:

Drives or tows machine to worksite. Directs sideboom operator and other workers to position pipe section in bending machine. Inserts pneumatic mandrel into pipe and turns air valve to expand mandrel to support walls of pipe during bending. Adjusts die to fit outside of pipe, and sets specified degree of bend. Pulls levers to start machine that activates die to bend pipe. Deflates and withdraws mandrel from pipe. Signals workers to remove pipe from machine.

GED: 3 SVP: 4 PA: M 4 5 7 8 EC: O 5 6 7 DPT: 6 6 2

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
4	4	4	<u>3</u>	<u>4</u>	5	<u>4</u>	<u>4</u>	<u>4</u>	4	5	2 3

8791-142 GAS-METER INSTALLER (utilities, n.e.c.)

Installs and replaces gas meters and regulators in domestic and commercial buildings:

Drives service truck containing tools and parts to each installation site. Turns gas supply to install meters on or off, as ordered by service department. Installs meters in new structures or replaces faulty meters in existing buildings. Inspects installations for gas leaks and other defects using gas detecting devices. Changes lead connections and meter piping such as nipples, elbows, and threaded lengths of pipes, using hand tools. Purges meter and piping using nitrogen and compressed air to prepare system for operation. Removes meters from vacant buildings and seals gas outlets. Writes daily report, stating work performed and time spent on each installation.

GED: 3 SVP: 4 PA: M 3 4 EC: B 6 DPT: 5 8 4

APT.										INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C	
4	4	4	<u>4</u>	<u>3</u>	4	<u>3</u>	4	<u>3</u>	3	5	0 Y

8791-144 SEWER-PIPE CLEANER (construction)

Operates sewer cleaning machines and equipment to remove or flush away roots, debris and other refuse clogging sewer lines and drains:

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Removes drain or manhole cover using wrench, pry bar or hook. Clears work area of gases using blower, if required. Regulates panel board controls to operate sewer cleaning machines that apply water pressure or activate power rods to wash away or dislodge blockages in sewer lines. Clears lines manually using various screw-rods or revolving cables. Vacuums, pumps, shovels or winches buckets of sludge from sewer. Inspects sewer waste for presence of mud, roots or stones indicating broken sewer pipe, and reports findings to repair crew. Services machines and equipment. Repairs or replaces catch-basins, if required, using concrete.

GED: 3 SVP: 4 PA: H 3 4 7 EC: B 5 7 DPT: 6 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	<u>4</u>	4	4	<u>3</u>	4	<u>3</u>	4	5			1 9	0 Y

8791-146 WATER-METER INSTALLER (water works)

Installs water-meters in residential and commercial buildings to monitor and record water consumption:

Locates outside shut-off valve at site by referring to plans or using magnetic or electronic detecting device. Turns valve to shut off or permit flow of water into establishment, using special wrench. Disconnects standard section of pipe at point of installation and connects water-meter to pipe by tightening unions at outlet and inlet ends. Inspects and tightens loose parts on meter and housing to ensure waterproof connection. Turns water on and visually checks for leaks. Records meter reading so that subsequent water consumption can be calculated. Collects unpaid accounts when required. Records serial number of meter and customer's account number in daily log book.

GED: 3 SVP: 3 PA: M 3 4 EC: B 4 DPT: 5 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	<u>4</u>	<u>4</u>	4	<u>3</u>	4	<u>3</u>	4	5			1 9	0 Y

8791-150 GAS-FITTER HELPER (utilities, n.e.c.)

Helps install, test and repair domestic gas appliances and gas units for commercial or industrial application:

Carries pipes and equipment from truck to work site. Cuts openings in floors and walls to accommodate pipes, when required. Cuts, threads, and joins pipes, using plumber's tools. Drills holes and inserts anchors or brackets in wall to support pipe, when required. Lifts and holds parts in position for securing. Positions heavy equipment such as domestic appliances or gas fixtures in commercial or industrial establishments. Sets out instruments to detect presence of escaping gas or helps in making pressure and other tests. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 4 PA: M 3 4 EC: B 6 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	4	<u>4</u>	4	<u>4</u>	4	<u>3</u>	4	5			1 9	2 3

8791-154 CLAMPER (construction)

Manipulates hydraulic, pneumatic or manual clamps to align and hold gas or oil line pipes in position for welding:

Guides pipe into position near previously installed pipe, using tongs. Installs expander clamps inside large diameter pipes and manipulates clamps using steel rod to bring pipe ends together. Installs outside clamps on small diameter pipes, and moves lever to activate hydraulic mechanism or draws pipe ends together manually, using wrench. Inserts spacer between pipe ends to allow space required for welding. Tightens inside or outside clamps, and removes spacer, if required, when welding nears completion. Moves clamps to next pipe section when welding is finished. Operates self-propelled air-clamps inside large diameter pipe, as required.

GED: 2 SVP: 3 PA: H 3 4 EC: O 6 7 DPT: 6 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	<u>4</u>	<u>4</u>	5	<u>3</u>	4	<u>4</u>	4	5			9 1 3	2 3 Y

8791-158 PIPELAYER, DRAINAGE SYSTEMS (construction)

Lays tile or plastic piping used in draining or irrigating areas such as lawns, football fields, golf courses or perimeter of building foundations:

Examines contour of land to determine where tiles or piping should be laid to ensure proper drainage or irrigation. Hammers pegs into ground and strings cord between pegs to mark off areas for trenches. Digs trenches along marked-out areas to specified depth, using pick and shovel, or directs back-hoe operator to do so. Lays tiles in bottom of trenches and butts tiles together manually. Examines slope of tile visually to ensure ground water will run into sewer pump. Covers areas to be drained or irrigated with plastic sheeting to form base for cellsystem (a method of controlling moisture content). Connects drainage or water injection piping to pipe sections forming cellsystem. Shovels gravel over drain tile and backfills ditches with soil or directs bulldozer operator to spread sand over plastic piping.

GED: 2 SVP: 3 PA: M 3 4 7 EC: O DPT: 6 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	<u>4</u>	<u>4</u>	5	<u>4</u>	4	<u>3</u>	4	5			1 3 9	2 3 Y

8791-199 OTHER PIPEFITTING, PLUMBING AND RELATED OCCUPATIONS

This residual group includes pipe fitters, plumbers and related workers not presently classified in Unit Group 8791.

8793-STRUCTURAL-METAL ERECTORS

This unit group includes occupations concerned with raising, positioning and joining prefabricated structural-metal parts and sub-assemblies by bolting, screwing, riveting or welding to form or repair completed frameworks or structures for buildings, bridges, tanks or similar works. Occupations concerned with forming and shaping metal plates and structural-metal parts are classified in Unit Group 8337, BOILER-MAKERS, PLATERS AND STRUCTURAL-METAL WORKERS. Occupations concerned with erecting metal drilling rigs used in oil and gas fields are classified in Unit Group 7711, ROTARY WELL-DRILLING AND RELATED OCCUPATIONS.

8793-110 ORNAMENTAL METALWORKER (construction)

Fabricates, assembles and installs ornamental and functional metal and ironwork structures such as metal window and door frames, metal trim, panels, fences, grills, gates, fire escapes, storage lockers and ladders:

Measures and marks layout for installation according to drawings, using ruler, template, square and compass. Welds support brackets to lintels, sills, columns and other structural framework. Drills anchoring holes in metal, concrete and masonry structures, using portable drill, air hammer and hand tools. Cuts, mitres, and bevels metal parts to size, using vice, hacksaw, power saw and acetylene torch. Fastens parts together and to brackets or anchors, using bolts, clips, melted lead, welding or soldering equipment. Grinds edges of fabricated items using power grinder. Verifies level and plumbness using spirit level and plumb bob. Installs newel posts, balusters, stairways, railings, lamp posts, gates, ornamental fences and decorative metal work, using drill, bolts, and hand tools. Spray paints structures or touches up scratches as required. Installs motor-driven or automatic doors following specifications and procedures provided by manufacturers.

GED: 3 SVP: 7 PA: H 2 3 4 5 7 EC: B 6 DPT: 3 6 1

APT.											INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C		
3	3	3	3	3	4	3	4	3	3	5	1 9 0	1 0 Y

8793-112 METAL-WALL INSTALLER (construction)

Assembles and secures exterior metal wall panels to structural steel or concrete beams of buildings:

Studies blueprints or drawings to determine layout of installation. Starts and stops mobile hoist and unloads and distributes materials at work site. Erects and secures metal studs according to grid lines using hand and power tools and measuring devices. Assembles metal frame structure using mechanic's hand tools. Fits and secures insulation to metal panels using hand tools and securing pins. Positions and secures metal panels to frame to form metal wall assembly. Raises and secures wall assembly to studs using hoist and hand tools. Verifies vertical and horizontal alignment of wall assembly using surveying instrument and plumbline. Bolts and welds assembly to floor anchors. Erects and secures horizontal and vertical bars using hand tools to form wall partitions or hold glass panels as required. Secures aluminium flashing to decorate walls or roofs using fastening devices and power gun.

GED: 3 SVP: 7 PA: H 2 3 4 5 6 7 EC: B 2 5 6 DPT: 3 6 1

APT.											INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C		
3	4	4	3	4	4	3	4	3	3	5	1 9	Y 0

8793-114 STRUCTURAL-STEEL ERECTOR (construction)

Erects steel frameworks and structures working as crew member:

Unloads and sorts structural steel and equipment by directing crane operator, using hand signals. Sets up rigging equipment to raise and position girders, plates, columns and other steel units. Erects scaffolding with guard rails, guy wires, manilla ropes and cleats, using electric bolt wrench and hand tools. Lays planks and hangs safety nets. Fastens steel unit to cable of hoist, using chain, cable or rope. Directs hoist operator to position steel units according to specifications and blueprints, using hand signals. Works steel units into approximate position while they are supported by hoist, using rope tag line, turnbuckles, crowbars, jacks and hand tools. Cuts and shapes steel unit

using oxy-acetylene or electric welding equipment. Aligns and bolts steel units in place until permanently bolted or welded. Welds units or replaces temporary bolts with high tensile bolts, using bolts, using hand wrench, impact wrench or torque wrench. Cuts new bolt holes and enlarges holes, using reamer and acetylene torch. Verifies horizontal and vertical alignment and angle, using plumb bob, spirit level, surveyors' transit and theodolite.

GED: 3 SVP: 7 PA: V H 2 3 4 5 6 EC: O 5 6 DPT: 6 6 1

APT.											INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C		
3	3	4	<u>3</u>	4	5	<u>3</u>	4	<u>3</u>	<u>2</u>	5	1 9 0	8 0 Y

8793-115 IRONWORKER APPRENTICE (construction)

Performs duties of structural steel workers such as: 8793-114 STRUCTURAL-STEEL ERECTOR (construction); 8793-126 REINFORCING-IRON WORKER (construction); and 8793-130 METAL-BUILDING ASSEMBLER (construction) on a progressive basis according to a training schedule.

8793-118 TANK-BUILDER (construction)

Erects metal tanks to store liquids and loose materials:

Verifies specifications of tank by checking such factors as steel thickness and dimensions against pattern. Directs and assists in the attaching of chains and hooks to metal plate sections. Operates overhead crane to move sections into place. Grinds metal sections to ensure proper fit using spirit level, square, portable grinder and cutting torch. Assembles, aligns and fits sections into position using clamps, bolts, welding equipment, spirit level and hand tools. Inserts sealing strips in joints. Welds or bolts attachments, such as ladders, hatches, gauges and valves, using power and hand tools and welding equipment. Directs helpers in erection of scaffolds and assembly of tank sections.

GED: 3 SVP: 7 PA: H 2 3 4 5 7 8 EC: B 5 6 7 DPT: 6 6 1

APT.											INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C		
3	3	4	<u>3</u>	4	4	<u>3</u>	4	<u>3</u>	<u>3</u>	5	1 9 0	0 Y 8

8793-124 DOOR INSTALLER, OVERHEAD (construction)

Installs, services and repairs single- and multi-panel garage and industrial doors such as those used in residences, service stations, airplane hangers and warehouses:

Measures door to confirm that it will fit door opening. Checks door opening for plumbness and alignment, using plumbline and square. Welds or screws and bolts vertical door tracks to door jambs. Hangs pre-fabricated door with aid of helper or hoists door panels and inserts into vertical tracks for multi-panel doors, using chain hoist. Rivets or screws adjacent panels together at hinges. Welds and bolts horizontal door tracks in place. Hoists and bolts torsion springs or chain lift to wall above door opening. Bolts lift chains to existing hardware at bottom of door or hooks cables between torsion springs and door. Connects opening and closing electrical-door mechanism, using hand tools.

GED: 3 SVP: 6 PA: H 2 3 4 EC: B 6 DPT: 3 6 1

MAJOR GROUP 87

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 4 4 4 4 4 4 4 3 3 5	1 9	Y 0

8793-126 REINFORCING-IRON WORKER (construction)

Positions and secures steel bars or steel mesh in concrete forms to reinforce concrete structures and other works:

Determines size, shape, quantity and location of reinforcing metal according to drawings or oral instructions. Selects, cuts and bends metal bars using measuring tape, bar cutters, vice and bending machine. Assembles bars in concrete forms as specified. Welds or wires bars in place using welding torch and pliers. Measures, cuts, bends and fits welded wire mesh in area to be mesh-reinforced using bolt cutter and tie wire. Holds mesh in position with hooked rod while concrete mixture is poured to form slab.

GED: 3 SVP: 6 PA: H 2 3 4 EC: O 6 7 DPT: 6 6 4

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 4 4 4 4 4 4 4 3 3 5	1 9	Y 0

8793-130 METAL-BUILDING ASSEMBLER (construction)

Assembles prefabricated metal building working as crew member: Checks building dimensions using tape measure to ensure conformance with building plans. Pre-assembles sections of structure using bolts, power drill, wrench and other hand tools. Directs crane operator to position structural metal sections. Bolts sections together to form building framework using wrench. Covers framework with insulation material using stapler and hand tools. Fits and installs door casings, window frames, and other fittings, using square, cutting torch, power drill, bolts and wrenches. Covers frame with sheet-metal sections using scaffolding and wrenches.

GED: 3 SVP: 5 PA: H 2 3 4 7 EC: O 5 6 DPT: 6 6 1

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 4 4 4 4 4 4 3 3 5	1 9	Y 0

8793-142 RECREATION-EQUIPMENT ERECTOR (construction)

Erects and installs prefabricated recreation and sports equipment for schools, recreational centres and institutions, working as crew member:

Marks out location of equipment according to drawings, using tape measure and stakes. Drills holes in walls, floors and ceilings and installs mounting brackets using power drill, bolts and wrenches. Installs foundations for outdoor equipment, such as swings, teeter-totters and goal posts. Lifts, aligns and secures parts in position, performing minor tooling where necessary to ensure accurate fit using bolts, screws, clips and hand tools. Fastens equipment to concrete footings using bolts and wrench. Tests equipment for functional and safety standards and makes adjustments if necessary. Performs carpentry work associated with installation of equipment.

GED: 3 SVP: 5 PA: H 2 3 4 7 EC: B DPT: 3 6 1

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 4 4 4 4 4 4 3 3 5	1 9	Y 0

8793-143 SCAFFOLD ERECTOR (construction)

Erects scaffolding to make framework in or around structures such as buildings and industrial sites from which workers may perform duties: Loads and unloads truck with equipment required for scaffold. Verifies level of ground before scaffold is erected, using plumb bob, to determine type of scaffolding required. Fits together steel bars, support braces and pipes to form rectangular base for scaffold using clamps and hand tools or constructs base of concrete or steel slab forms. Hammers steel bars vertically into corners of concrete base or bolts or tack-welds steel bars to steel slab to keep scaffold secure. Signals crane operator to lift and position parts of scaffolding. Fits and bolts pipes and steel bars together until scaffold reaches desired height using wrench. Places wood planks over horizontal bars to support workers. Verifies level of joists using plumb bob. Dismantles scaffold after job has been completed using hand tools.

GED: 3 SVP: 5 PA: H 2 3 4 EC: B 6 DPT: 6 6 4

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 4 4 5 4 4 4 3 3 5	1 9	Y 0 2

8793-144 ALUMINUM-WINDOW-AND-DOOR INSTALLER (construction)

Installs aluminum windows, door frames and doors in buildings: Measures window and door openings and compares measurements with dimensions of windows and doors to be installed. Removes old window and mouldings with screwdriver or chisel. Installs window using power screwdriver and hand tools. Pushes insulating material along outside of frame. Cuts inside wood moulding (cove) and outside aluminum moulding (capping) to desired lengths using saw and snips. Bends capping to required shape using brake. Nails cove and capping mouldings to house frame to secure window. Installs aluminum door frame and door in opening using bolts, screws and power screwdriver. Caulks around doors and windows using caulking gun. Cuts frame and door to size, if required, using hacksaw.

GED: 3 SVP: 4 PA: M 2 3 4 EC: B 6 DPT: 4 8 4

APT.	INT.	TEMP.
G V N S P Q K F M E C		
4 4 4 4 4 4 4 4 3 4 5	1 3	0 Y

8793-145 STEEL-STUD ERECTOR (construction)

Erects steel stud framing for interior non-bearing walls: Studies floor plan to determine dimensions and layout of walls and materials to be used. Lays out location of room partitions on floor and ceiling, using tape measure, chalk line, square and plumb bob. Measures, cuts, positions and nails wooden sills along chalk line on floor to provide base for metal tracks. Measures and saws tracks to required lengths and secures them to ceiling and floor, using nails or power-driven fasteners. Measures and marks location of stud centres on floor and ceiling, twists studs into position and secures them in place, using special fasteners and crimping tool. Measures, cuts and installs headers and sills for windows, doors and other openings, using hand tools. Inserts and twists bars through pre-stamped holes in studs to provide extra horizontal bracing when required. Measures, cuts and installs wooden backing between steel studs, using hand and power tools, when support is required for such items as hand rails and towel bars.

GED: 3 SVP: 4 PA: M 2 3 4 7 EC: I 5 6 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	4	4	4	4	4	4	4	4	5		1 9	Y 0 2

8793-146 JOIST SETTER, ADJUSTABLE STEEL (construction)

Assembles, adjusts and positions steel joists to support concrete floor slab forms:

Extends or contracts joists to desired length by telescoping joist segments manually. Tightens clamps with wrench or taps wedgelock with hammer to lock adjusted segments together. Lifts and positions joists with assistance of other worker, or signals crane operator to hoist and lower joists into position. Levels joists by placing blocks under joists using spirit level. Removes joists after concrete has been cured, using hammer, wrench and pry bar.

GED: 2 SVP: 3 PA: H 2 3 4 5 7 EC: O 5 6 DPT: 6 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	4	4	5	4	4	4	4	4	5		1 9 3	2 Y

8793-150 ORNAMENTAL-METAL-WORKER HELPER (construction)

Helps assemble and install ornamental metalwork:

Loads and unloads material and tools. Assembles metal required for job. Measures and cuts material to size using band saw, speed cutter and acetylene torch. Measures and drills mounting holes in wood, concrete or metal, using electric drill, airhammer, and hand tools. Paints iron work using brush, spary-gun or by dipping. Erects scaffolding using hand tools or positions ladders to reach work site. Lifts and holds parts in place for securing by metal worker. Digs holes and mixes cement to anchor posts for fences using auger, pick, shovel and wheelbarrow. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 3 PA: V H 2 3 4 7 EC: B 6 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	4	4	4	4	4	4	4	4	4		1 9	2 3 Y

8793-158 TANK-BUILDER HELPER (construction)

Helps tank builder cut and erect metal tanks for storing liquids and other materials:

Loads and unloads metal plating and pipes using overhead crane. Cuts and shapes metal plates and other metal, using automatic place cutter, cutting torch and hydraulic press. Grinds and cleans pipes and metal plates using electric hand tools, hammer, hacksaw and other tools. Erects scaffolds, platforms and chain lifts, using power wrench. Bolts metal sections together using power wrench. Brushes or installs material to seal metal joints. Carries tools and work material. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 3 PA: H 2 3 4 EC: B 5 6 7 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	4	4	5	4	4	4	4	5			3 1 9	2 3

8793-162 STRUCTURAL-STEEL-ERECTOR HELPER (construction)

Helps erect metal frameworks and structures working as crew member:

Loads, unloads, sorts and carries metal parts, scaffolding and tools. Attaches crane hooks, slings or cradles to item to be moved. Gives hand or other signals to crane operator to guide operator in moving metal parts. Erects scaffolding using electric bolt tightener and hand tools. Lifts, guides, pushes, pulls or pries steel beams into position for bolting, riveting or welding by other crew members. Assists in bolting and welding steel parts together using electric bolt tightener and wrenches. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 2 PA: H 2 3 4 6 7 EC: O 5 6 DPT: 6 8 7

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	5	4	4	5	4	4	4	4	5			3 1 9	2 3

8793-199 OTHER STRUCTURAL METAL ERECTORS

This residual group includes structural metal erectors not presently classified in Unit Group 8793.

8795-GLAZIERS

This unit group includes occupations concerned with preparing and installing glass in buildings and furniture, using bolts, screws, putty, grinding and buffing wheels, glass cutting tools, drills, hand tools and other devices. Activities include: sketching; tracing; selecting size, colour and type of glass; bending and joining metal framework around stained-glass sections; setting glass in frames, mouldings or sashes; installing mirrors or structural glass; and bolting prefabricated glass units together.

8795-110 GLAZIER, STAINED GLASS (construction; glass)

Designs patterns, cuts, paints, fires, polishes, assembles and installs stained glass in windows, doors, shades or other structures:

Examines specifications to determine design, dimensions and selection of colours. Sketches free-hand drawing (cartoon), geometric design or traces design onto pattern paper. Selects pieces of glass of colour, thickness, and texture that will yield colour shades specified in design. Cuts glass according to appropriate pattern, shape and size using glass cutter. Tones and fires glass in kiln as specified. Places pieces of glass into position to form design and measures assembly to ensure exact dimensions. Measures, cuts and fits strips of grooved lead, copper or zinc around pieces of glass to form framework. Solders joints together using soldering iron. Rubs or brushes putty and mastic into gaps between lead and glass to seal and stiffen structure. Installs horizontal bars across frame at specified intervals to form support. Installs completed window in structure in accordance with specifications. Repairs broken windows or other structures by removing individual bars and inserting new glass pieces.

MAJOR GROUP 87

GED: 4 SVP: 7 PA: M 2 4 7 EC: B 6 DPT: 3 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	<u>3</u>	<u>2</u>	4	<u>3</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>			1 9 0	0 Y

8795-111 GLAZIER, APPRENTICE (construction)

Performs duties of glaziers such as 8795-110 GLAZIER, STAINED GLASS (construction; glass) and 8795-118 GLAZIER (construction) on a progressive basis according to a training schedule.

8795-118 GLAZIER (construction)

Cuts, fits and installs glass and mirrors in windows and doors, and on interior walls and ceilings of buildings:

Examines specifications to determine type of glass, frame and materials required. Measures pre-cut glass to verify dimensions and marks any adjustments with chalk. Measures and marks outline or pattern on glass and cuts glass if required, using glass cutter. Inserts sealing bed for glass panels being set in wood or metal sash (frames), using putty, mastic or rubber. Sets glass panes into sash, seals with tape or other sealer, and secures glass in position, using points, clips or moulding. Installs mirrors or structural glass on building fronts, walls, and ceilings, using mastic, rubber, screws and decorative moulding. Assembles parts of glass prefabricated units for buildings such as revolving doors, display cases, and shower enclosures, and bolts parts together. Sets and secures assembled glass units in buildings, according to specifications.

GED: 3 SVP: 7 PA: M 2 3 4 EC: B 6 DPT: 3 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	3	<u>3</u>	<u>3</u>	4	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>4</u>			1 9	0 Y

8795-120 GLAZIER, EXTERIOR WALLS (construction)

Installs pre-cut mirrors and opaque and transparent glass panels into frames to form exterior walls of buildings:

Assembles swing-stage scaffolding and rigging scaffolding as required. Carries and positions glass panels near work area. Snaps thermal barrier tape into place along ridge on exterior of window frame. Places setting blocks of neoprene on window frame at specified points. Carries and places glass on setting blocks using suction cup to hold glass steady while other workers position glass. Aligns glass, inserting rubber shims between glass and frame when necessary. Screws temporary clips in place to hold glass firmly against barrier tape. Screws horizontal and vertical pressure plates over glass for permanent securement of glass. Removes temporary clips. Caulks corners where horizontal and vertical pressure plates join, using caulking gun. Retightens screws on pressure plates, when windows have settled, using hand tools. Snaps finish plates over permanent pressure plates, using rubber hammer, to secure firmly.

GED: 3 SVP: 7 PA: H 2 3 4 5 6 EC: O 6 DPT: 6 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	<u>3</u>	4	4	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>5</u>			1 9 0	0 Y

8795-122 GLASS INSTALLER (furn.; metal fab., n.e.c.; woodworking)

Installs glass during assembly of prefabricated wood or metal mill products such as doors, window sash, partitions and cabinets:

Places item to be glazed on work table. Applies sealing compound such as putty and tape, to glass panel being set in wooden or metal item, using air gun. Selects glass of appropriate size and inserts panel in opening. Selects aluminium channels (framing) according to specifications and cuts to correct lengths using mitre box and power saw. Cuts glass for special opening sizes in accordance with specifications, using glass cutter. Grinds and sands any rough, exposed edges on mirrors or glass. Fits and fastens glass in place using brads (diamond points) and special hand tools. Fits framed glass into openings and screws frames to sides of opening, using power screwdriver. Repairs broken glass in windows and doors. Keeps production record.

GED: 3 SVP: 4 PA: M 4 EC: I 5 6 DPT: 6 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	<u>4</u>	<u>4</u>	4	<u>4</u>	<u>4</u>	<u>3</u>	<u>5</u>	<u>5</u>			1 3 9	2 3 Y

8795-126 GLAZIER HELPER (construction)

Helps glass worker cut, fit and install plate glass, window glass and mirrors in frames and on interior walls and ceilings of buildings:

Erects and rigs scaffolds and hoists to form platform and lift supplies. Assembles tools and materials such as glass, sealing compound, rubber gaskets, and mouldings required for glass installation. Removes broken glass, moulding and putty to prepare surface for installation of new glass. Lifts and carries large sheets of plate glass or windows to installation site. Inserts sealing compound or gasket in frame. Attaches metal fittings, such as hinges, handles and frames to fabricated units such as glass doors for installation in buildings. Lifts and holds glass and other parts in position for securing by glazier. Cleans glass and work area. See also definitions for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 3 PA: H 2 3 4 EC: B 6 DPT: 6 8 7

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
4	4	4	<u>4</u>	<u>4</u>	4	<u>4</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>5</u>			1 3 9	2 3 Y

8795-199 OTHER GLAZIERS

This residual group includes glaziers not presently classified in Unit Group 8795.

8796-INSPECTING AND TESTING OCCUPATIONS, CONSTRUCTION, EXCEPT ELECTRICAL

This unit group includes occupations in inspecting and testing work, as described under the term titles, 02-170 INSPECTOR (any ind.) and 02-430 TESTER (any ind.), concerned

with quality control activities in the construction and maintenance of buildings, bridges, dams, highways, pipelines and other types of construction, except electric power, light, or wire communications construction. Activities include: inspecting work at various stages and testing materials to ensure that specifications, building codes and other standards are met; verifying alignment, level and elevation of structures using surveyor's instruments; examining mechanical installation, instrumentation, valves and fittings in equipment such as pipeline distribution systems, storage tanks and refinery equipment.

8796-110 BUILDING-CONSTRUCTION INSPECTOR (construction; gov. serv.)

Oversees and inspects construction of buildings for conformance to drawings, specifications and building codes: Studies plans and specifications for structure and inspects site. Interprets drawings and specifications for contractor and discusses deviations to ensure compliance with building codes. Verifies levels, alignment, and elevations of structure, using surveyor's level and transit. Observes work during construction of building to ensure that procedures followed and materials used conform to specifications and codes. Measures distances to verify dimensions of concrete forms, layout of reinforcing steel, partitions, openings and mechanical installations. Arranges for testing of materials used such as cement and various grades of wood, and evaluates test results. Verifies level and plumbness of foundations, walls, columns and framing with spirit level, plumb line, laser or other test devices. Examines workmanship of finish work such as trim, cabinets, pointing and flooring for conformance to specifications. Participates in final inspection of completed structure and recommends acceptance or modification. Notifies contractor of unsatisfactory conditions disclosed during inspection of structure, and arranges corrective action to conform with specifications. Prepares progress and other reports for record and control purposes.

GED: 4 SVP: 8 PA: L 2 3 4 5 7 EC: B 5 6 DPT: 2 6 4

APT.													INT.		TEMP.		
G	V	N	S	P	Q	K	F	M	E	C							
<u>2</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>2</u>	4	4	4	4	4	<u>3</u>			1	5		0	Y

8796-114 CONSTRUCTION INSPECTOR (construction, gov. serv.)

Inspects and oversees construction of bridges, dams, highways, tunnels and other types of engineering construction projects to ensure conformity with contracts, drawings, specifications and applicable ordinances: Verifies measurements, levels, alignment and elevation of installations using measuring devices or survey crew report. Observes each stage of work performed for standard of workmanship and materials used, and reports observed or suspected discrepancies. Ensures that excavating, grading and paving procedures are carried out according to standards. Samples and tests materials such as concrete, asphalt, soil, and aggregate and evaluates and reports test results. Evaluates and records structural tests on manufactured products such as concrete culverts, prestressed or reinforced-concrete beams and bridge components.

Recommends cessation of construction work when necessary to enforce terms of contract. Examines workmanship of finished installations and recommends acceptance or rejection of installation. Interprets drawings and specifications for contractor and discusses deviations from prescribed construction procedures to ensure compliance with regulation, if required. Composes regular and special reports, including check lists and drawings, for record and control purposes. Computes estimates of work completed and recommends progress payments to contractor. Checks and reports upon adherence to safety standards such as shoring for excavations and scaffolding for structures.

GED: 4 SVP: 8 PA: L 2 3 4 5 6 7 EC: B 5 6 DPT: 2 6 4

APT.													INT.		TEMP.		
G	V	N	S	P	Q	K	F	M	E	C							
<u>2</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>2</u>	4	4	4	4	4	<u>3</u>			1	5		0	Y

8796-126 PIPELINE-CONSTRUCTION INSPECTOR (construction)

Inspects materials and workmanship of pipeline construction for conformity to specifications: Observes preparation of right-of-way for conformity to contract agreement. Verifies grade, depth and alignment of trenches, using measuring devices. Examines bottom of trench for rocks or other obstructions which might damage pipe coatings. Examines installed pipeline and fixtures to ensure conformity to specifications. Inspects surface and x-ray films of welded joints to detect external and internal welding defects. Conducts electric tests or directs testing of coated and wrapped pipe and pipe fittings to determine adequacy of covering. Participates in testing pipes, using pressure or other tests, and analyzes results. Observes shoring and blocking to ensure that adequate provision is made for expansion, contraction, jarring and vibration of pipes. Observes quality and quantity of back fill for pipes. Advises installation foreman/woman regarding corrections to be made. Prepares reports and returns for control and record purposes.

GED: 4 SVP: 8 PA: L 4 7 EC: O 5 DPT: 2 6 4

APT.													INT.		TEMP.		
G	V	N	S	P	Q	K	F	M	E	C							
<u>2</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>2</u>	4	4	4	4	4	5			5	1		0	Y

8796-128 PLUMBING INSPECTOR (gov. serv.)

Inspects and tests plumbing installations in building to ensure compliance with municipal, provincial or federal regulations: Examines blueprints and specifications of building to determine plumbing lay-out and materials and fixtures to be installed. Examines and measures piping, vents, sinks, taps and other accessories to ensure that materials and work conform to plans, by-laws and regulations. Connects piping to water supply and turns valves to fill piping with water under specified pressure. Observes pressure gauge after specified time for indication of pressure loss. Inspects pipe connection for leaks, as indicated by pressure loss, and marks leaks with crayon. Completes inspection report form and prepares written reports of installations found to be either defective or not conforming to standards. Performs follow-up inspection of rejected installations to ensure defects have been corrected.

GED: 4 SVP: 7 PA: L 2 3 4 5 6 7 EC: I 6 DPT: 2 6 4

APT.	INT.	TEMP.
G V N S P Q K F M E C		
2 3 3 3 2 4 4 4 4 4 4	1 5	0 Y

8796-129 PRESTRESSED-CONCRETE INSPECTOR (construction; gov. serv.)

Inspects and tests materials used in prestressed concrete to ensure that quality standards are met:

Reads drawings and specifications to determine type of mix and strength of concrete required for the job. Observes the preparation of casting beds, construction and assembly of steel forms, testing, cutting and placement of reinforcing steel rods. Directs test procedures to ensure strength of concrete will withstand specified stress. Observes concrete mixing and pouring operations to ensure correct mix proportions, and that such factors as temperature, consistency and curing procedures are in accordance with specifications. Inspects concrete products such as panels, balconies, stairs and girders after removal of forms for appearance, dimensional tolerances and structural adequacy to ensure acceptable standards are met. Observes handling and loading of concrete members for shipment to ensure they are not damaged. Studies techniques used in the manufacture of pre-tensioned concrete members and recommends improvements.

GED: 4 SVP: 7 PA: L 3 4 5 6 7 EC: O 4 5 6 7 DPT: 2 6 4

APT.	INT.	TEMP.
G V N S P Q K F M E C		
2 3 3 3 2 4 4 4 4 4 4	1 5	0 Y

8796-130 REINFORCED-CONCRETE INSPECTOR (construction)

Inspects concrete forms, reinforcing-steel mesh and rods, and concrete to ensure conformance to specifications and building codes:

Observes work in progress to ensure that materials used and procedures followed conform to standards and adhere to safety regulations. Verifies accuracy of dimensions, levels, alignment and elevation of concrete forms and quantity, size, gauge, and placement of reinforcing-steel mesh and rods using tape measure and level. Interprets specifications and drawings for contractor and discusses any deviations from construction procedures or building codes. Observes pouring of concrete to ensure that forms and reinforcing steel retain original position and shape. Evaluates and reports on concrete samplings and other testing procedures. Establishes time for removal of forms to ensure adequate setting of concrete. Evaluates and approves or rejects completed work. Maintains daily log of construction and inspection activities and prepares progress reports.

GED: 4 SVP: 7 PA: L 2 4 5 6 7 EC: B 4 6 DPT: 2 6 4

APT.	INT.	TEMP.
G V N S P Q K F M E C		
2 3 3 3 2 4 4 4 4 4 4	1 5	0 Y

8796-132 SEWER INSPECTOR (construction; gov. serv.)

Inspects construction of sewer systems to ensure compliance with construction specifications and check degree of deterioration in existing systems:

Examines contract, blueprints and job specifications to ensure all materials meet standards. Inspects width and depth of trenching visually

to ensure that grade and fall are adequate for proper drainage. Inspects trench to ensure that sand bedding and placement of pipes are in accordance with specifications. Inspects completed sewer line for cracks and faults and checks that concrete is used both inside and outside of pipe joints to seal pipe sections together. Crawls inside large pipes to detect cracks, collapsed pipes, root infiltration, calcide deposits or other defective conditions. Directs other workers by, intercom system, to pull television camera, mounted inside watertight module, through small sewer pipes, to observe defects or obstructions on television monitor located in truck. Presses button to take pictures of sewer line condition. Records location and nature of defect on field-inspection report.

GED: 4 SVP: 7 PA: L 2 3 4 5 6 7 EC: B 4 5 6 7 DPT: 3 6 4

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 3 3 3 3 4 4 4 4 3 4	1 5	0 Y

8796-134 STRUCTURAL-STEEL INSPECTOR (construction; gov. serv.)

Inspects steel framework of bridges, buildings and other structures to verify conformance to specifications:

Interprets drawings and specifications for contractor and discusses any deviations from specified procedures to conform with municipal and provincial regulations governing construction. Observes structural-steel work being erected, and verifies that materials used and workmanship conform to specifications and building codes. Verifies accuracy of dimensions, using tape measure. Checks level, alignment and elevation of structure, using level and plumb line. Examines bolted, riveted and welded joints in structure for faults such as looseness, misalignment, cracks, and excessive welds, using tapping hammer, flashlight, magnifying glass, square, protractor and rule. Marks and records faulty constructions, and informs contractor of corrective action required. Prepares progress and other reports for record and control purposes.

GED: 4 SVP: 7 PA: L 2 3 4 5 6 7 EC: B 4 6 DPT: 2 6 4

APT.	INT.	TEMP.
G V N S P Q K F M E C		
2 3 3 3 2 4 4 4 4 4 4	1 5	0 Y

8796-142 LINE-LOCATER (construction)

Inspects construction and excavation activities near public-utility facilities such as water mains, sewers, gas pipes, electric-power lines and telephone lines to ensure precautions are taken to prevent damage to facilities:

Confers with contractor concerning location of proposed construction. Examines work orders, maps, underground and right-of-way records, and other drawings to determine relative position of utilities located in area of construction. Advises contractor regarding best excavating or construction procedure to follow to avoid interference with installed utilities. Measures distances and elevations with tape or chain and marks pavement, or drives stakes in earth to point out location of sewers, water mains and other utility lines. Inspects work under progress to ensure that utility lines are being placed according to marked locations. Reports damage to utilities such as broken or exposed pipe, severed telephone or power cables or caved-in vaults and urgency of repairs required. Confers with personnel representing other utilities to

coordinate work schedules to avoid repetitions and costly repair activities if required. Prepares reports or diagrams to provide information or records regarding new utility line placements when work is completed.

GED: 4 SVP: 7 PA: L 5 6 EC: B DPT: 2 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	3	3	3	3	4	4	4	4	4	4			1 5	0 Y

8796-146 REFINERY-EQUIPMENT INSPECTOR (oil & nat. gas)

Inspects refinery equipment, processing and storage tanks, pipelines and fittings, stills, towers, and pumping units for defects following prescribed inspection procedures:

Examines mechanical installations, instrumentation, valves and fittings for defects such as cracks, corrosion and leaks. Measures thickness of tank, tower walls and pipelines using calipers and electronic instruments, to determine exact extent of corrosive damage. Drills test holes in tank and tower walls to take samples of corrosive deposits to verify extent of damage. Installs probes and other instruments in tank and towers to obtain samples of corrosive deposits and measure rate of corrosion. Computes rate of corrosion from laboratory analysis of probe samples using prepared charts and tables. Advises mechanical department of any urgent repairs needed. Prepares inspection reports to indicate nature of repairs and replacements required and to specify safe limits of temperature and pressure pending repair of unit. Inspects new construction and installation of new mechanical equipment for conformity to specification. Conducts test for gas leaks to ensure safety of personnel. Analyzes refinery operations to determine factors such as temperatures, pressures, changes in process and quality of crude oil that could affect corrosion rate of refinery equipment. Inspects welding operations to assure quality of work performed, if necessary.

GED: 4 SVP: 7 PA: M 2 3 4 7 EC: B 6 7 DPT: 2 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
2	3	3	3	3	4	3	4	3	4	5			9 1	0 Y

8796-154 GAS-LEAK INSPECTOR (utilities, n.e.c.)

Inspects underground and exposed gas pipeline and enclosed areas to detect and locate gas leaks:

Patrols gas pipeline on foot or as member of mobile crew in special vehicle such as low-flying aircraft or snowmobile to note nearby construction work, soil erosion, washouts or other activities endangering pipeline. Observes terrain for evidence of gas leaks such as decayed vegetation, changes in snow cover, or bubbles in water along submerged pipeline. Checks for gas leaks during municipal road-building programs, after major excavation or blasting adjacent to gasoline system or at request of contractor or customer. Operates truck-mounted, mobile or portable gas-leak-detecting unit and devices to carry out inspections, and uses gas-indicator probe to detect leaks in underground installations. Notifies maintenance department of location and severity of any gas leaks and action taken. Maintains records of conditions noted on survey. Performs emergency repairs using dope, clamps or other devices if required.

GED: 3 SVP: 5 PA: L 3 4 7 8 EC: B 6 7 DPT: 3 6 7

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	4	4	4	4	4	4	4	5			9 1	0 Y

8796-158 SAND AND GRAVEL TESTER (construction)

Tests samples of sand and gravel to determine suitability for use in construction projects such as highways, bridges, dams, foundations, or in manufacture of building products:

Weighs sample before and after heating to determine moisture content using balance scale. Screens sample through numbered screens to determine coarseness of sample. Tests sand and gravel for silt content, using test apparatus. Prepares reports of test results. Conducts other construction material testing in laboratory such as hardness, breakage, density, compression and tensile-strength tests, using hydraulic press, pressure gauge and other test devices, as required. See also definition for term title TESTER 02-170 (any ind.).

GED: 3 SVP: 4 PA: L 4 7 EC: I DPT: 3 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	4	3	4	4	4	4	5	4			9 1	0 Y

8796-199 MISCELLANEOUS INSPECTORS AND TESTERS, CONSTRUCTION

This residual group includes construction inspectors and testers not presently classified in Unit Group 8796.

8798-OCCUPATIONS IN LABOURING AND OTHER ELEMENTAL WORK, OTHER CONSTRUCTION TRADES

This unit group includes occupations in labouring or other elemental work, as described under the term title, 02-190 LABOURER/ELEMENTAL WORKER (any ind.), which are concerned with the construction and maintenance or demolition of buildings, bridges, dams, highways and other construction works.

8798-110 CONSTRUCTION LABOURER (construction)

Performs any combination of the following duties on construction sites in erecting, repairing and wrecking structures, or facilities such as buildings, highways, bridges, tunnels, pipelines and dams:

Loads and unloads construction materials. Checks materials when delivered to job site for correct quantity and type. Moves materials between work areas to supply other workers. Mixes, pours and spreads materials such as concrete. Sets braces and cross-arms on shoring used to support sides of excavations. Directs truck driver to designated areas where loads are to be dumped. Shovels and rakes earth. Erects and dismantles scaffolding, ramps and catwalks. Erects barricades and places lights to isolate work areas and protect workers from street traffic. Assists in wrecking buildings by prying and hammering apart sections of structure. Sorts, cleans, and piles salvaged materials. Removes rubble and accumulated debris to provide clean

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work areas, using rake, shovel and wheelbarrow or broom and vacuum. Cleans and stores tools and equipment. Aligns and spaces oil and gas pipelines in preparation for welding. Helps workers lay brick, stone, concrete blocks, tile and marble as directed. Replenishes machines such as pipe-wrapping machine with glass fabric, felt paper or other materials. Operates simple machinery associated with construction, such as chain saw or pneumatic drill.

GED: 1 SVP: 2 PA: V H 2 3 4 EC: O 5 6 7 DPT: 8 8 7

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
4	4	5	4	4	5	4	4	3	4	5			1	3		2 3

8798-199 MISCELLANEOUS OCCUPATIONS IN LABOURING AND OTHER ELEMENTAL WORK, CONSTRUCTION

This residual group includes construction labourers and elemental workers not presently classified in Unit Group 8798.

8799-OTHER CONSTRUCTION TRADES OCCUPATIONS, N.E.C.

This unit group includes occupations, not elsewhere classified, concerned with construction trade activities such as installing, adjusting, servicing and repairing elevators, escalators, furnaces, oil burners, water heaters and soft-water systems; sanding and finishing floors; installing and repairing carpeting, tile and other types of floor covering; operating concrete or asphalt batch plants; setting up and operating hydraulic jacks; erecting pre-cast concrete slabs or components; cleaning buildings; and installing and servicing swimming pools.

8799-110 ELEVATOR ADJUSTER (construction)

Sets up and adjusts installed freight and passenger elevators and escalators to meet electrical, mechanical and safety specifications: Examines door installations for plumbness, alignment and working action. Adjusts mechanism of doors with hand tools. Inspects car hoistway and mechanical installations for alignment and clearance. Tests power consumption and line voltage changes of motors and motor-generator sets under zero and full-load conditions to detect overload factors, using tachometer, voltmeter, ammeter or oscilloscope. Adjusts counterweights and regulates controls to compensate for power overload. Inspects and tests wiring connections and control panel hook-ups, using electronic test equipment, switches, relays and associated circuits to meet specifications for gap and timing. Tests and adjusts safety controls such as brakes and governors. Turns valve or pushes switches to adjust pump pressures, fluid levels and power supply on hydraulic unit of elevators. Operates elevator to determine power demand at various speeds.

GED: 4 SVP: 8 PA: M 2 3 4 7 EC: I 6 DPT: 2 8 0

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
3	3	3	3	3	4	3	3	3	3	4			9	1		Y 0 1

8799-111 ELEVATOR MECHANIC APPRENTICE (construction)

Performs duties of workers concerned with installing, adjusting and repairing elevators such as: 8799-110 ELEVATOR ADJUSTER (construction); 8799-114 ELEVATOR REPAIRER (construction); and 8799-118 ELEVATOR CONSTRUCTOR (construction) on a progressive basis according to a training schedule.

8799-114 ELEVATOR REPAIRER (construction)

Repairs and maintains elevators, escalators and dumb-waiters to meet safety, building and other codes:

Switches elevator from automatic to manual control. Locates and determines cause of malfunction in motors, brakes, switches and control systems, using electrical test equipment. Disassembles defective units and repairs or replaces parts such as cables, electric wiring, switches, relays, electron tubes, gears and faulty safety devices, using hand and power tools and hoisting equipment. Adjusts or replaces valves, ratchets, seals and brake linings of hydraulic or mechanical brakes, using hand tools. Checks door for proper opening and closing operation. Performs general maintenance and repair on routine basis, in accordance with company's specifications. Installs modification kits such as push-button controls to update installations. Switches elevator back to automatic control when system has been repaired and tested.

GED: 4 SVP: 8 PA: H 2 3 4 7 EC: I 6 DPT: 2 6 1

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
3	3	3	3	3	4	3	3	3	3	4			9	1		0 Y 1

8799-118 ELEVATOR CONSTRUCTOR (construction)

Assembles and installs electric and hydraulic freight and passenger elevators, escalators and related equipment, according to specifications:

Studies drawings to determine the layout of framework, counterbalance rails, motor, pump, cylinder and plunger foundations. Drills holes in concrete or structural steel members with portable electric drill. Secures anchor bolts or welds brackets to support rails and framework. Installs elevator guide rails and verifies alignment with plumb line and level or laser beam. Installs cables, counterweights, pumps, motor foundations, escalator drives, elevator cars, doors and fabricated entrance frames using hand and power tools. Installs safety and control devices. Positions electric motor and equipment on top of elevator shaft, using hoist and cable slings. Connects electrical wiring to control panels and electric motors or installs pre-wired selector panel. Tests entire assembly, including cables, wires and electrical controls, using tachometer and other electric testing devices. Lays tiles on floor of cab, using commercial glue and trowel. Lubricates all moving parts. Operates elevator to ensure optimum running order.

GED: 4 SVP: 7 PA: H 2 3 4 7 EC: I 6 DPT: 2 6 1

APT.													INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C						
3	3	3	3	3	4	3	3	3	3	4			9	1	0	0 Y 1

8799-122 FURNACE INSTALLER AND REPAIRER (construction)

Installs and repairs furnaces and related equipment to provide heating facilities for domestic and industrial applications:

Studies drawings and specifications to determine layout of installation.

Measures and marks reference points for erecting unit and determines the required size and length of ducts. Constructs and levels foundation of concrete or other non-combustible materials. Cuts metal furnace pipes and fittings to required lengths using metal shears. Assembles and positions heating components in sequence in accordance with drawings, using drills, punches, tin snips and other tools. Sets firebrick lining in burner, if necessary, using mortar and trowel. Cuts holes in floors and walls to provide air-duct outlets. Installs fuel pipes, air ducts, blowers, vents and other components in place. Wraps insulation such as asbestos around air ducts to prevent heat passage. Connects electrical wiring and controls such as switches and thermostat using screwdriver and electrician's tape and checks unit for proper operation. Inspects inoperative heating units to locate causes of trouble. Replaces or repairs defective parts, and starts heating unit to test its operation. Lubricates moving parts such as pump or fan bearings at specified intervals, and adjusts system for operation to specified standard.

GED: 4 SVP: 7 PA: M 2 3 4 EC: I DPT: 2 6 1

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>4</u>				9	1	0	0 Y 1	

8799-126 MAINTENANCE MECHANIC, FACTORY OR MILL (any ind.)

Repairs and maintains machinery, plumbing, electrical wiring and fixtures, and physical structures of commercial and industrial establishments:

Inspects machinery and electrical equipment for defects. Dismantles and repairs defective parts, using hand tools. Repairs drive belts and replaces them on machines. Cleans and lubricates shafts, bearings, gears, pulleys, and other parts of machines, using cleaning and lubricating equipment. Measures, cuts and installs pipe and tubing for gas, water or hydraulic lines, using ratchet and cutting and threading die. Repairs and replaces gauge valves, pressure regulators, and other plumbing equipment. Opens clogged drains, using plumber's tools. Installs electrical equipment and repairs or replaces wiring and fixtures. Constructs and repairs counters, benches, partitions and other structures, using wood and metalworking tools. Paints walls, floors, woodwork and fixtures, using spray gun and brushes. Replaces and repairs brick and plaster walls, using trowel. Inspects, fills and repairs fire extinguishers. Moves or modifies fixtures such as conveyor systems to meet changes in production process or to improve efficiency.

GED: 4 SVP: 7 PA: H 2 3 4 7 EC: B 5 6 DPT: 2 6 1

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>4</u>				9	1	0	0 Y 1	

8799-130 OIL-BURNER INSTALLER-MAINTAINER (construction)

Installs and maintains automatic oil burners in furnaces used to heat residential and commercial buildings:

Examines drawings, specifications, and worksite to determine scope of installation and tools required. Lays out oil burner components such as combustion chamber, burner, pump, fans, motor and controls, according to sequence of installation. Measures and marks reference points for positioning equipment. Assembles burner, oil pump and motor in position and secures unit to base, using electric drill and power screwdriver. Positions and secures other components such as combustion chamber, fans, smoke pipes and casing. Installs and connects fuel tank

or connects inlet pipe to public fuel-oil transmission line. Connects control devices, and thermostat to motors and electric power supply to provide automatic control system for unit. Tests combustion performance of burner, checking for smoke, draft, temperature and carbon dioxide using gauges and meters, and adjusts controls to obtain maximum efficiency. Answers trouble calls to diagnose and repair malfunctioning oil burners. Performs scheduled maintenance service by checking combustion, and by cleaning, adjusting, repairing or replacing ignition, electrodes, pumps, motors and burner, pipes and filters.

GED: 4 SVP: 7 PA: M 3 4 EC: I 6 DPT: 2 6 1

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>4</u>				9	1	0	0 Y 1	

8799-131 OIL-BURNER INSTALLER-MAINTAINER APPRENTICE (construction)

Performs duties of 8799-130 OIL-BURNER INSTALLER-MAINTAINER (construction) on a progressive basis according to a training schedule.

8799-134 STEEPLEJACK (construction)

Constructs, maintains, repairs and demolishes elevated structures such as chimneys, smokestacks, water tanks, steeples and towers:

Studies drawings or blueprints of structures to be erected. Climbs ladder or is hoisted in boatswain's chair to working level. Erects metal or wooden scaffolds as progress on structure advances. Manipulates and operates a variety of hand and power tools associated with a number of building trades such as bricklaying, carpentry, painting, roofing, sheet-metal work and constructional steel erecting. Assists in demolishing lofty structures such as chimneys and steeples. Sets-up and controls the raising or lowering of a working platform suspended by cables from roof of structure to facilitate repair work on structure.

GED: 3 SVP: 7 PA: V H 2 3 4 7 EC: O 6 7 DPT: 3 6 1

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	4	<u>3</u>	4	4	<u>3</u>	3	<u>3</u>	<u>2</u>	4				1	9	0	8 0 Y 1	

8799-138 DISPATCHER, UTILITIES-MAINTENANCE CREWS (elec. power; utilities, n.e.c.)

Dispatches work crews for normal maintenance or emergency repairs to equipment and facilities of public utilities such as hydro-electric, gas, and water services.

Receives trouble calls from police, fire departments and company offices, and makes priority judgments. Records time, location and nature of complaint and relays information to workers assigned to area, using telephone, two-way radio or service order form. Receives work reports and makes reassignments. Informs work crews of changes in weather conditions and system status affecting safety, and answers questions requiring knowledge of system layout, electric equipment operation and repair, and gas or watermain shut-off points. Relays and records messages between crews and workers assigned to operate switches for supply on electric power, water or gas. Requisitions supplies for work crews. Dispatches workers to answer customer service calls. Maintains records of location of work crews, equipment, workers' time sheets, and state of completion of jobs.

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GED: 4 SVP: 6 PA: S 4 5 6 EC: 1 DPT: 1 6 8

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 3 4 4 4 3 4 4 4 5 5	2 3	4 5 2

8799-142 STRUCTURAL-HYDRAULIC-JACK OPERATOR (construction)

Operates control panel which regulates action of hydraulic jacks to raise precast floors and roof slabs into position:

Studies blueprints, and drawings to position slabs according to specifications. Directs other workers engaged in erecting scaffolds, and hoisting and installing hydraulic jacks. Measures and marks grade lines on support columns to provide reference points during lifting. Starts pumps and moves levers and valves on control panel to regulate lifting action of jack. Signals jack erector by hand to verify grade with rule. Adjusts control valves to maintain level when slab reaches predetermined position. Notifies welding crew to weld supporting collars or brackets to column and slab section before lowering hydraulic jack. Operates truck-mounted winch, if required, to raise jacks into position on support columns, and to lift and remove equipment from slab.

GED: 4 SVP: 6 PA: L 2 4 5 7 8 EC: 0 6 DPT: 6 6 2

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 4 4 3 3 5 4 4 4 4 5	9 1	0 Y 4

8799-150 MOBILE-HOME SERVICER (construction)

Installs, repairs and services mobile homes and trailers:

Transports and installs mobile homes or trailers on concrete blocks or foundations using jacks and level. Unpacks, assembles and places furnishings in proper locations in trailer or mobile home. Installs floor sheeting, carpeting and wall and floor tile. Refinishes scratched floors and wall panels, using portable sander, putty, and paint spray-gun. Opens and closes doors, windows, and drawers to ensure smoothness of operation and trims edges to fit. Resets latches, using hand tools. Connects water hose to inlet pipe of plumbing system and tests operation of water closets and sinks. Examines and pressure-tests pipes and connections to detect leaks and repairs, or replaces faulty pipes using caulking compound or wrench. Repairs leaks in roof, using roofing tools and sealant material. Arranges for electrical system to be connected to existing power source and determines if system is working properly. Connects pipes for propane gas and adjusts gas regulator to proper pressure, if required. Connects fuel line from oil tank to oil furnace, if required. Locates and repairs or replaces faulty wiring and electrical connections, using hand tools.

GED: 3 SVP: 6 PA: M 3 4 7 EC: B DPT: 3 8 1

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 4 4 3 4 4 3 3 3 4 4	1 9	0 Y 1

8799-152 RESIDENTIAL FLOOR AND WALL-COVERING INSTALLER (construction)

Installs plywood floors, floor sheeting, floor tiles, carpeting and ceramic and mosaic tiles in residential construction:

Reads blueprints or specifications or follows oral instructions. Measures and marks surfaces to be covered. Cuts and fastens plywood sheets to subflooring, using skill saw and power stapler. Cuts floor tiles or sheeting such as vinyl or linoleum to size, using linoleum knife, straightedge or square. Cements floor sheeting and tiles to plywood

floor using adhesives and rollers. Installs underpad and carpeting to cover floor area and cuts material to fit around corners and fixtures, using knife and shears. Joins carpet sections at seams using hand or machine stitcher or bonding tape. Shifts carpet into desired position with knee kicker implement, and secures carpet using either tackless strips or carpet tacks. Shapes and secures ceramic tiles to surfaces, using tile cutters, adhesives and serrated spreader. Applies mosaic tiles to drywall or plaster using adhesives, grout and squeegee, and to cement surfaces using wire mesh lath, cement and trowel. Cuts tiles to fit in corners and around fixtures such as soap dishes and towel racks. Attaches fixtures such as towel bars and soap dishes to tile walls, using hand tools.

GED: 3 SVP: 6 PA: H 2 3 4 EC: 1 6 7 DPT: 4 6 1

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 4 3 3 3 4 3 4 3 4 4	1 9 0	0 Y

8799-154 CARPET LAYER (construction)

Installs, replaces, and repairs carpeting on floors of buildings:

Inspects area to be covered to ensure that floor is firm, dry and clean. Measures and marks off area to determine layout. Staples underpad to floor, and lays out carpeting to cover area with minimum wastage of material. Cuts material to fit around permanent obstructions, and trims edges of carpet, using carpet cutters. Fastens carpet sections together at seams, using hand or machine stitcher, seaming iron or bonding tape. Shifts and stretches carpet to required position, using knee kicker or power stretcher implements. Secures carpet using tackless strip along border, or carpet tacks. Pushes roller along joints to obscure seam marks if required. Inserts and secures matching piece of material in damaged areas to repair carpet using hand tools. Removes and replaces baseboard moulding trim to install carpet edge under trim if required. Installs resilient flooring as required.

GED: 3 SVP: 5 PA: H 3 4 7 EC: 1 DPT: 4 6 4

APT.	INT.	TEMP.
G V N S P Q K F M E C		
3 4 3 3 3 4 3 4 3 4 4	1 9 0	0 Y

8799-155 FLOOR COVERING INSTALLER APPRENTICE (construction)

Performs duties of floor covering installers such as: 8799-154 CARPET LAYER (construction) and 8799-158 RESILIENT FLOOR LAYER (construction) on a progressive basis according to a training schedule:

8799-158 RESILIENT FLOOR LAYER (construction)

Applies blocks, tiles, or sheets of shock-absorbing, sound-deadening, floor-surfacing or decorative coverings to floors, walls and cabinets:

Cleans and prepares surface to be covered using fillers, sanders and brushes to form smooth and clean foundation. Measures and cuts materials such as rubber, vinyl, linoleum tile or sheets, or parquet pieces and foundation material such as felt, according to specifications using rule, straightedge, saw, knife and tile cutters. Applies adhesive and covers floor with foundation material. Lays out centre lines, guide lines and borders, with chalk line and dividers. Spreads adhesive over base using serrated trowel. Lays floor covering pieces, following guide lines and patterns. Joins sections of sheet-covering by overlapping edges and cutting through both layers with knife to form tight joint. Rolls finished floor to ensure tiles are set and adhere evenly to floor.

Operates sanding machine to finish surface of parquet flooring if required.

GED: 3 SVP: 6 PA: M 3 4 7 EC: I DPT: 4 6 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	3	4	3	4	3	4	3	4	4			1 9 0	0 Y

8799-160 LABORATORY-EQUIPMENT INSTALLER (construction)

Installs laboratory and hospital equipment such as chemical-resistant tables, laboratory benches and cabinets, exhaust hoods and operating-room sinks:

Examines drawings, plans, and specifications to determine layout of equipment. Measures and marks reference points on wall or floor for equipment layout. Drills holes in masonry floor or metal framework. Assembles, fits and anchors equipment to framework, using brackets, clamps, screws and bolts. Connects equipment to plumbing and wiring outlets or requests appropriate trade workers to connect equipment.

GED: 3 SVP: 6 PA: M 2 3 4 7 EC: I DPT: 6 8 1

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	4	4	5	3	4	3	4	5			3 1	Y 0 2

8799-162 CANAL-EQUIPMENT MECHANIC (construction)

Repairs and maintains structures and equipment such as gates, dams and pumps used along irrigation canals.

Disassembles gate-moving gear at dam sites and removes worn or damaged gate cable using mechanics' hand tools. Slides fittings over new cable and pours molten zinc over cable and fittings to secure in place. Positions cable in gate-lifting apparatus. Welds broken parts together, using arc welder. Builds scaffolding to gain access to structures, using hand tools. Removes old paint from structures, using sandblasting machine, and repaints using spray gun. Lubricates gear trains, pulleys and other fittings, using grease gun. Mixes concrete and repairs wells, using cement mixer, jackhammer, air drill, water pump and trowel. Repairs structural and mechanical parts of checks and turnouts along canals. Patrols reservoir in boat to detect and physically break up log jams. Maintains inventory of standard replacement parts and requisitions spare parts. Prepares inspection reports on condition of system and equipment.

GED: 3 SVP: 6 PA: H 3 4 8 EC: O 6 DPT: 5 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	3	4	4	3	4	3	4	4			9 1	0 Y 6

8799-164 PRE-CAST CONCRETE ERECTOR (construction)

Erects concrete floor slabs, wall panels and other precast components to form commercial or residential buildings:

Attaches components to hooks on crane lifting frame and signals crane operator to lift and move unit. Pulls or pushes components into approximate position by hand. Aligns holes or keys of component being

positioned with corresponding hardware in steel structure or previously placed components using crowbar. Bolts components to structure using wrench. Drills new bolt holes using portable power tools and installs anchor bolts, if necessary. Checks alignment using plumb bob. Positions, adjusts and secures temporary steel props to support and align wall panels, removing props when erection is completed. Welds panels to structure using oxygen-acetylene torch or instructs and assists welder. Inserts reinforcing rods in wall and floor-joints and grouts joints to strengthen erected components using tape, grout, shovel or pump.

GED: 3 SVP: 6 PA: H 2 3 4 EC: B 6 DPT: 6 6 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	3	4	5	3	4	3	4	5			1 3	Y 0

8799-170 CARPET CUTTER (construction)

Cuts pieces of carpeting from supply rolls into sizes to fit specified areas:

Examines specifications to determine brand, style number and size of pieces required. Identifies carpet roll on shelf or consults inventory for location in storage room. Operates forklift truck to lift and transport material to cutting area. Lays out, measures and marks dimensions on selected material to get maximum number of usable pieces from standard-size rolls, following floor dimensions or diagrams. Cuts carpet along marked lines, using carpet shears or knife. Rolls, wraps and labels cut carpet. Loads onto delivery wagon or carries wrapped rolls to installers' pick-up area. Returns original roll to shelf, using fork-lift truck, if required. Measures and cuts underpad, if required.

GED: 3 SVP: 5 PA: H 3 4 7 EC: I 6 DPT: 4 8 4

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	3	3	4	3	4	3	4	4			1 9	0 Y

8799-176 CONCRETE-BATCH PLANT OPERATOR (construction)

Operates automated continuous-process concrete mixing plant from control panel to weigh and mix specified quantities of concrete aggregate, cement and water:

Reads order from central dispatch unit to determine amount of material required for specific mix. Selects and inserts computer card into computer to automatically discharge specified amounts of sand, cement, and water into mixing drum. Observes control panel lights and instruments to ensure that mixing process are in accordance with specifications and that equipment is serviceable. Adds materials to mixture, as required, to compensate for atmospheric conditions. Pushes button or lever to discharge concrete mix into truck, hopper or onto conveyor. Observes consistency (slump) of concrete as it pours from drum and occasionally checks its temperature using thermometer.

GED: 3 SVP: 5 PA: L 4 7 EC: I DPT: 6 8 2

APT.													INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C				
3	4	4	4	4	4	4	4	5	5				9 1 3	Y 0 2

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8799-178 CONCRETE-MIXER OPERATOR (construction)

Operates portable or stationary concrete batching and mixing plant in gravel pit, material supplier's yard, or at construction projects to weigh and mix specified quantities of concrete aggregate, cement and water.

Examines specifications to determine concrete formula. Turns dials and pushes buttons to start conveyors which move and discharge materials from storage hopper into weighing bins and mixing drum. Observes indicators on scales to determine when specified amounts of aggregate and cement have been weighed. Opens valve or pushes button to allow specified amount of water to flow into mixing drum. Pushes button to start drum rotating to mix materials. Pushes gate lever to discharge cement into hopper of block-making machine, into bucket or truck, or onto conveyor. Rubs concrete mixture between fingers to ensure consistency of material meets specifications. Sends samples of mixed concrete to laboratory for testing to ensure it meets with specifications of job requirement. Checks machinery periodically to ensure systems are functioning properly.

GED: 3 SVP: 5 PA: M 4 EC: I 5 7 DPT: 6 8 2

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	4	4	<u>4</u>	<u>4</u>	<u>4</u>	4	4	4	5		9	1	3		Y	0 2	

8799-182 WELL-POINT PUMP OPERATOR (construction)

Assembles, installs, and operates pumping system to remove water from below-grade excavations, or to supply water for construction activities:

Aids workers engaged in erecting timber and other foundations for pumps, stringing and coupling hose lines, and driving sand point into water-bearing sub-surface soil. Assembles and sets pump unit in place, using cables and winches, or drives truck-mounted pump to work site. Starts pump engines. Observes pumping operation and listens to equipment to detect malfunctions. Adjusts valves and inlets to maintain operating efficiency of equipment. Cleans, lubricates and makes minor adjustments and repairs to equipment. Operates portable pump in areas where fixed installation is not feasible. Lays out hose line to water supply, such as lakes and rivers, and activates pumps to supply water to homes or construction sites as required.

GED: 3 SVP: 5 PA: M 3 4 6 EC: O 4 5 DPT: 6 6 2

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	4	4	<u>4</u>	<u>4</u>	<u>4</u>	4	4	4	5		9	1	3		Y	0 2	

8799-186 ASPHALT-PLANT OPERATOR (construction)

Operates stationary or semi-portable power-driven plant that mixes ingredients such as sand, stone and naphtha with asphalt to produce asphalt paving material used in road surface construction:

Moves controls to start and regulate fire under asphalt heating unit and aggregate drying drum. Moves levers or inserts computer program card into automated system, according to specifications, to regulate supply of ingredients to batch mixer. Starts and stops equipment such as aggregate conveyor and aggregate drying drum. Reads gauges and adjusts controls to ensure that ingredients are within specified temperature range. Inspects asphalt heating and pumping equipment to detect malfunctions, or surveys computer control panel to ensure all

systems of mixing operation function properly. Tests or receives reports from inspectors who test mixture for conformance to specifications. Maintains production records. Directs workers operating machines that mix and dry aggregate to feed asphalt plant. Cleans heaters, using forced air and steel brushes, and performs minor repairs such as replacing used belts and fans and lubricating machine when necessary.

GED: 3 SVP: 5 PA: L 4 5 6 7 EC: B 3 5 6 7 DPT: 6 6 2

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	4	4	<u>4</u>	<u>4</u>	<u>4</u>	4	4	4	5		1	3			Y	0	

8799-194 MAINTENANCE WORKER, BUILDING (any ind.)

Performs minor repairs and maintenance to commercial, educational and industrial establishments:

Cleans or supervises cleaning activities of common areas such as wash-rooms, lobbies, elevators, laundry rooms and offices. Maintains heating and air conditioning systems and makes minor repairs and adjustments such as lubricating pumps and motors and replacing fan belts and faulty gauges. Replaces fuses, light bulbs, fluorescent tubes and switches, using hand tools. Repairs and adjusts windows and doors and replaces locks and hinges. Erects partitions and shelving. Replaces tiles in floors, walls and ceiling as required. Repairs minor faults in plumbing, such as leaky faucets and plugged drains. Repairs plaster and lays brick or cement blocks. Mixes and pours cement into forms. Waters and cuts lawns and keeps sidewalks free from snow and ice or directs other workers to do so. Paints structures and repairs woodwork as directed.

GED: 3 SVP: 5 PA: M 2 3 4 EC: B 5 6 DPT: 3 8 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	4	<u>4</u>	<u>4</u>	5	<u>3</u>	<u>4</u>	<u>3</u>	4	4		9	1	3		0	Y 1	

8799-198 STRUCTURAL HYDRAULIC-JACK ERECTOR (construction)

Sets up hydraulic jacks used to raise and position concrete floors and roof slabs:

Assists in erecting scaffolds to form work platform. Climbs onto scaffold at top of support column to mount and set up jacks. Guides threaded lift rods through holes in jack frames. Slips lift nut over end of rod and bolts lift rod onto jack. Mounts hydraulic motor to each jack, using hand wrenches. Fits drive chain around gears on motor. Pulls idler gear arm to adjust tension of drive chain and bolts it in position. Snaps hose fittings and electric wiring in place to connect jacks to control panel and pump. Observes performance of jacks during lifting operations. Verifies grade with rule. Signals when malfunction occurs, to halt lifting process.

GED: 3 SVP: 5 PA: M 2 3 4 5 7 EC: O 6 DPT: 6 6 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	5	3	<u>4</u>	5	<u>3</u>	4	<u>3</u>	<u>3</u>	5		9	1	3		Y	0 2	

8799-202 FLOOR SANDER-AND-FINISHER (construction)

Sands and finishes wooden floors to impart smooth and finished appearance.

Examines condition of floor and removes any obstructions such as protruding nail heads. Affixes sandpaper belts or discs to sanding machine to provide abrasive surface. Starts electric motor and guides machine in regular pattern over floor until surface is sanded smooth. Observes and feels sanded area for smoothness. Scrapes or sands floor edges and areas inaccessible to floor sander, using scraper or smaller edging sander. Cleans floor to remove dust from sanding, using vacuum cleaner, broom or cloths. Fills holes or wide spaces between boards with putty or mastic. Applies sealing compound over floor surface to seal wood grain, using brush, mop or trowel. Applies wax to floor by hand, or with machine, and polishes floor with electric polisher. Cleans floors with solvent and abrasive compounds.

GED: 3 SVP: 5 PA: H 3 4 EC: I 5 7 DPT: 6 6 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	5	4	<u>4</u>	5	<u>4</u>	<u>4</u>	<u>3</u>	4	5				1	3	9	2 0 Y	

8799-210 DUCT INSTALLER (construction)

Installs prefabricated sheet metal ducts used for heating and air conditioning:

Examines drawings or other specifications to determine layout of ductwork. Measures and marks reference points for duct layout. Cuts openings in ceilings and walls to accommodate ducting, using hand and power tools. Assembles sections of sheet-metal duct, according to drawings, and fastens seams using slip joints, metal screws and pliers. Lifts and fastens duct sections into position, using metal fasteners, and installs hangers and braces to support and secure duct. Adjusts position of heating or air conditioning unit and connects duct work to unit, using drills, screws, and hand tools. Positions and secures hot and cold air registers in floors, walls and ceiling. Installs dampers or louvers on roof or exterior walls and secures unit with bolts or screws. Cuts opening in roof and installs prefabricated chimney unit, using hammer, nails and caulking gun. Wraps ducting with fibreglass or other materials to insulate system when required. Makes minor modifications in duct work, if required, using tin snips, power shears and hand tools.

GED: 3 SVP: 5 PA: H 2 3 4 EC: I 6 DPT: 6 8 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	3	<u>4</u>	<u>3</u>	<u>4</u>	4	<u>4</u>	<u>4</u>	<u>3</u>	<u>4</u>	5				9	1		0 Y	

8799-214 FENCE ERECTOR (construction)

Erects and repairs metal and wooden fences and gates:

Lays out fence line and marks positions for post holes according to specifications, using tape measure, pegs and hammer. Digs post holes, using tools such as spade, power-driven auger, jackhammer or power-drill. Lifts and positions post in hole. Mixes and pours concrete around base of post and tamps soil around top of hole or erects stone-filled crib around post to secure it. Snaps or nails metal caps on post tops as required. Verifies alignment of posts using string, plumb bob or level. Attaches fence-rail support to posts, using hammer and pliers. Cuts metal tubing, using pipe cutter, and inserts tubing through rail supports. Connects tube sections, using sleeve connectors to complete top rail of metal fence. Attaches rails or tension wire along bottoms of

posts to form fencing frame. Stretches wire, wire mesh or chain link fencing between posts, using stretching device, and secures it with wire clamps. Attaches gates to gate posts with hinges, using hand tools. Strings barbed wire through barbed wire holders in fence-post tops, when required, using pliers. Saws required lengths of lumber to make rails for wooden fence. Nails top and bottom rails to fence posts or inserts them in slots on posts. Nails pointed slats to rails to construct picket fence. Erects alternative panel, basket weave or louvered wood fences.

GED: 3 SVP: 5 PA: M 3 4 EC: O DPT: 6 8 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
3	4	4	<u>4</u>	<u>4</u>	4	<u>3</u>	4	<u>3</u>	4	5				9	1		0 Y	

8799-218 MAINTENANCE-MECHANIC HELPER, FACTORY OR MILL (any ind.)

Helps maintenance mechanics engaged in repairing and maintaining physical structures, machinery, plumbing, wiring and fixtures of commercial and industrial establishments:

Erects and rigs hoists and scaffolds to form work platform. Assembles working tools and materials at job site. Performs bricklaying, carpentry, painting, electrical and other construction maintenance duties as directed. Helps mechanics to dismantle machines or equipment, replace defective parts or motors, and adjust feed mechanisms. Cleans, oils and greases machines and makes minor repairs to mechanical equipment, if required. Paints machines to prevent corrosion. Repairs plumbing fixtures. Erects partitions, benches, shelving and other furnishings, if required. See also definition for term title, 02-160 HELPER (any ind.)

GED: 3 SVP: 5 PA: H 2 3 4 EC: I 5 6 DPT: 6 8 4

APT.													INT.			TEMP.		
G	V	N	S	P	Q	K	F	M	E	C								
4	5	4	<u>4</u>	4	5	<u>3</u>	4	<u>3</u>	4	5				9	1	3	3 Y	

8799-222 BILLBOARD ERECTOR (construction)

Erects and maintains wood or metal framework for outdoor signs and billboards:

Examines specifications and measures distances with rule and tape to lay out work. Selects standard precut structural parts or cuts material to shape, using hand and power tools. Directs digging of holes for up-rights. Fills hole with cement for base and mounts poles to support structure. Operates airhammer to drive channel-metal support posts into ground. Nails or bolts precut cross stringers to beams, diagonal braces and supporting struts to form sign framework and backing for face panel. Attaches face panels forming base for bulletins or posters. Bolts or nails outside platform or catwalk to base of billboard. Constructs support structures and erects signs and billboards on building facades and rooftops. Installs lighting fixtures, if required, using electrician's tools. Paints completed structure. Maintains signs and billboards by replacing worn or damaged parts, cleaning and painting structure or changing location of structure. Erects metal sign support structure over highways, if required.

GED: 3 SVP: 4 PA: H 2 3 4 EC: B 6 DPT: 3 6 4

MAJOR GROUP 87

APT.												INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
3	4	4	<u>3</u>	4	4	<u>4</u>	4	<u>3</u>	<u>4</u>	5		1 9		3 Y 0	

8799-230 SEPTIC TANK SERVICER (construction)

Cleans and repairs, or replaces septic tanks:

Removes earth to uncover septic tank using shovel or back hoe. Inspects tank to determine extent of repairs required. Attaches hose fittings and starts suction pump to empty tank. Stirs contents of tank with paddle, and observes extent of fermentation to determine bacterial action of contents. Breaks up any solids which clog suction hose. Patches cracked or worn walls and partitions of tank with cement mortar, fibreglass or sheet metal, using hand tools. Cleans connecting hose between septic tank and building if required, using plumber's snake tool. Replaces soil and gravel over tile and septic tank using shovel or back hoe. Drives service truck and dumps collected septic tank contents. Removes and replaces unserviceable septic tanks and related equipment such as drain and weeping tile.

GED: 3 SVP: 4 PA: H 3 4 EC: O 4 7 DPT: 6 8 3

APT.												INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
3	4	4	4	<u>4</u>	5	<u>3</u>	4	<u>3</u>	<u>3</u>	4		9 1 3		0 Y 2	

8799-234 AWNING INSTALLER (construction)

Attaches rigid or folding awnings onto buildings:

Examines specifications, zoning regulations, and work site to plan layout for installation. Measures installation site for awning such as door, window or store front and marks location for frame, brackets or hinges. Drills holes in brick, stone or wood structures. Drives expansion shields into holes in brick or stone to receive lag bolts. Bolts, screws or nails frame fittings into place. Fits frame and awning to structure and fastens it into position with hand tools. Attaches and adjusts mechanical fittings such as cranks and pull-cords to operate awnings designed for rolling or folding. Installs special fittings for rigid awnings of metal, plastic or fibreglass, such as flashings and drip cap. Installs related products such as carport and patio covers in accordance with specifications.

GED: 3 SVP: 4 PA: M 2 3 4 EC: O 6 DPT: 6 6 4

APT.												INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
3	4	4	<u>3</u>	4	4	<u>3</u>	4	<u>3</u>	<u>4</u>	4		9 3 1		Y 0 2	

8799-240 SWIMMING-POOL INSTALLER (construction)

Installs vinyl-lined swimming pools:

Measures and marks area to be excavated, using tape measure, cord, stakes and sledgehammer. Guides bulldozer or back-hoe operator to excavate and grade bottom and sides of excavation, using hand signals. Sets levels and aligns metal or fibreglass wall panels, using braces at joints, brackets at corners, bolts, wrenches, string and levelling devices. Pours concrete footing between panel and earth wall to stabilize braces and panels. Sands and smooths walls. Covers bottom of pool to specifications using sand, brick dust, or asbestos pad. Installs and joins fittings such as heater, drain, drain pipe, skimmer, filter and filter hosing, using tape measure, pipe cutters, glue and soldering iron. Installs vinyl liner and coping (edging) to pool using clamps, snaps,

nuts, bolts and wrench. Cuts openings in vinyl liner for fittings, and fastens and seals vinyl liner to fittings, using tape and sealers. Removes wrinkles in liner using vacuum hose. Fills pool with water and checks for leakage. Instructs equipment operator to backfill space between panels and earth wall with sand, gravel or other materials. Installs weeping tiles to outside perimeter at base of walls, if required.

GED: 3 SVP: 4 PA: H 2 3 4 7 EC: O DPT: 6 6 4

APT.												INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
3	4	4	<u>3</u>	4	4	<u>3</u>	4	<u>3</u>	4	5		1 9		Y 0	

8799-241 WATER HEATER INSTALLER (construction)

Installs and repairs electric water heating units in private residences and small business establishments:

Inspects service entrance panel to determine if existing service can carry additional electrical load of water heater. Advises customer on location and size of heater required to provide most economic and efficient service. Cuts or removes plug on hot and cold water pipes, using hacksaw or soldering torch. Connects water pipes to heater, using plumber's hand tools and soldering equipment. Installs electric wire from panel to water heater, using wire cutters, clamps, power drill, and hand tools. Repairs or replaces thermostats, safety valves, switches, and other equipment. Replaces faulty water heaters or disconnects and removes those no longer required.

GED: 3 SVP: 4 PA: M 4 5 7 EC: I 6 DPT: 6 6 4

APT.												INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
3	4	4	4	<u>4</u>	5	<u>3</u>	4	<u>3</u>	5	4		9 1		0 Y	

8799-242 WATER-CONDITIONER SERVICER (construction)

Installs, repairs and services water conditioners:

Locates and marks positions for installation of water conditioning components such as chemical tank, brine tank, valves and related piping. Measures, cuts, and bends pipes, using measuring tape, pipe cutters and pipe bending tools. Installs pipes, fittings and valves using hand tools, and seals joints using blow torch and soldering iron. Connects system to water supply. Attaches electrical fittings such as solenoid valve and electrical timer, and connects electrical power source. Fills chemical and brine tanks to provide water treatment agents. Activates system by opening water supply valve and setting hand or electrical controls. Inspects connections to detect leaks. Tests treated water using soap and other solutions, and adjusts system to specified operation. Repairs or replaces faulty tanks, pipes, valves or electric controls. Replaces used chemical tank with regenerated tank and delivers salt for brine tank, when required. Regenerates used chemical tanks in shop using chemical washing procedures.

GED: 3 SVP: 4 PA: H 3 4 7 EC: I DPT: 6 8 4

APT.												INT.		TEMP.	
G	V	N	S	P	Q	K	F	M	E	C					
3	4	4	<u>3</u>	<u>4</u>	4	<u>4</u>	<u>4</u>	<u>3</u>	4	4		9 1		Y 2	

8799-250 SWIMMING-POOL SERVICER (misc. serv.)

Cleans and makes minor repairs to swimming pools and related equipment:
Skims debris off water surface using net. Cleans bottom and sides of pool, using aids such as underwater vacuum cleaner, hose, brush and cleaning solution, and sander. Inspects and replaces loose or damaged tile, using caulking gun and pointing trowel. Removes filter cover and cleans dirt from filter system. Adjusts and makes minor repairs to heating, pumping and draining equipment, using mechanics' tools. Unbolts pump and filter motors in need of major repair and sends for servicing. Tests pool water and adds chemicals in prescribed amounts to purify water. Refers structural defects, such as cracks, chipped cement, or faulty electrical connections to service manager. Installs or replaces deck equipment such as diving boards, ladders and slides, as required. Prepares pool for winter, as required.

GED: 3 SVP: 4 PA: M 2 3 4 7 EC: B 4 DPT: 6 8 4

APT.													INT.			TEMP.	
G	V	N	S	P	Q	K	F	M	E	C							
3	4	4	4	4	4	4	3	4	3	4	5		9	1	3	2	Y

8799-254 BUILDING-EXTERIOR CLEANER (construction)

Cleans exterior surfaces of wood, stone, brick or metal structures:
Erects scaffolding to form work platform and sets up pedestrian walkway and protective measures for windows, porches, and signs. Mixes proportions of materials to be used such as water, sand and detergent, depending upon type of structure to be cleaned, and pours mix into tank of pressure generator. Sets up sand-blasting, pressurized steam or hydro-blasting equipment and carries nozzle to working position. Turns valve to regulate flow of sand, pressurized water or steam from nozzle and directs spray over surface to be cleaned. Washes down sand-blasted surface with water jet. Removes loose mortar from brick and stone walls, using wire brush, trowel and chisel. Points up defective joints, using trowel and mortar. Washes walls with chemical solutions to remove stains and foreign matter insoluble in water, using bucket and brushes.

GED: 2 SVP: 4 PA: M 2 3 4 EC: O 4 5 6 7 DPT: 6 8 4

APT.													INT.			TEMP.	
G	V	N	S	P	Q	K	F	M	E	C							
4	4	5	4	4	5	4	4	3	3	4		9	1	3	2	Y	

8799-256 DRAPERY INSTALLER (construction)

Installs draperies, window shades, blinds and other window coverings:
Measures and marks wall or ceiling surface for placement of support brackets. Drills holes and screws brackets into place using hand and power tools. Measures, marks and cuts drapery track to required length. Snaps or screws track into place against brackets. Screws drapery pulley system to wall, adjusts tension, and cuts off excess cord. Hangs drapery on track. Installs blinds, shades, curtains and other window coverings on tracks or rods.

GED: 3 SVP: 3 PA: M 2 4 EC: I DPT: 6 8 4

APT.													INT.			TEMP.	
G	V	N	S	P	Q	K	F	M	E	C							
3	4	4	3	4	4	3	4	4	4	4		1	3		2	0	

8799-258 ELEVATOR-MECHANIC HELPER (construction)

Helps elevator mechanic install, service, and repair freight and passenger elevators, escalators, and associated equipment:
Raises and moves elevator and escalator machinery, equipment and components, using hoists, slings, dollies and rollers. Drills holes in concrete or structural steel members, using portable electric drill. Places and holds parts in position to aid in erection of rails, frameworks and other structural sections of elevator system. Bolts parts in place. Assists in assembling or dismantling components during maintenance, dismantling, or repair operations, using hand or power tools. Cleans equipment, using scraper, solvent and cloths. Lubricates moving parts according to specifications, using grease gun. See also definition for term title, 02-160 HELPER (any ind.).

GED: 3 SVP: 3 PA: H 2 3 4 EC: I 6 DPT: 6 8 4

APT.													INT.			TEMP.	
G	V	N	S	P	Q	K	F	M	E	C							
4	4	4	4	4	5	4	4	3	3	5		1	3		2	3	Y

8799-262 FLOOR-COVERER HELPER (construction)

Helps floor coverers to install, replace, or repair carpeting, floor sheeting or tile on floors:
Cleans floors, using broom or vacuum cleaner. Fills cracks, indentations or other irregularities with filler to smooth and level surface. Applies coat of primer or sealer to size concrete floors, using brush. Spreads mastic or other adhesive cement on surface, using serrated spreader. Sets out materials in area to be covered. Cuts underlay to size and tacks it in place on floor. Assists floor coverer to position, cut and trim carpeting and tiling, using cutter or knife. Pushes roller over tile to ensure tiles are set and adhere evenly to floor. Nails or cements treads across door openings or attaches stair nosing plate to protect floor covering. See also definition for term title, 02-160 HELPER (any ind.).

GED: 3 SVP: 3 PA: H 3 4 7 EC: I 7 DPT: 6 8 4

APT.													INT.			TEMP.	
G	V	N	S	P	Q	K	F	M	E	C							
4	4	5	4	4	5	4	4	3	4	5		3	1		2	3	Y

8799-266 WRECKER-AND-SALVAGER (construction)

Demolishes buildings and salvages usable building materials such as fixtures, lumber, brick, stone and metal work:
Erects ladders and scaffolds to form work platform. Rigs hoists and slings to lift or lower tools and materials. Loosens and removes accessories such as doors, plate glass, light and toilet fixtures. Removes bracing, furring, non-usable lumber and masonry using sledgehammer or air hammer, and wrecking bar. Loosens and removes usable lumber, prying at joints to avoid splitting or chipping, using wrecking bar. Breaks masonry joints with hammer and chisel and wrecking bar. Dismantles usable brick or stone in fire places, hearths and chimneys using chisel, hammer and crowbar. Dismantles pipes and structural steel, using wrenches, oxyacetylene torch, and pry bar. Lowers heavy materials to ground level, using hoist. Shovels debris into wheelbarrows and chutes. Pries and hammers apart large sections lowered to ground, using claw hammer and wrecking bar. Operates air hammer to dismantle large masonry sections.

GED: 3 SVP: 4 PA: H 2 3 4 7 8 EC: O 5 6 7 DPT: 6 6 4

MAJOR GROUP 87

APT.												INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C			
4	4	5	3	4	5	<u>3</u>	4	<u>3</u>	<u>3</u>	5		1 3 9	2

8799-270 SEAT INSTALLER (construction)

Installs seats in structures such as assembly halls, theatres, auditoriums, churches, stadiums and arenas:

Lays out and marks seating arrangement on floor, according to drawings and specifications, using tape measure, square and chalk-line. Drills holes in floor and walls for bolts, screws and other attachments to secure seat in position, using power drill. Drives expansion shields into drilled holes in masonry to receive screws or bolts. Fits seat parts together using nuts, washers, bolts and power and manual wrenches. Places seat in specified position, using dolly for transport if necessary, and secures it to floor, wall, or other seats, using wrench and screw-driver. Installs seat numbers and row letters if required, using screw-driver or rivet gun. Repairs or replaces broken seating units. Installs related furnishings, such as handrails, as required.

GED: 2 SVP: 4 PA: M 3 4 EC: B DPT: 6 8 4

APT.												INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C			
4	4	4	<u>4</u>	4	5	<u>3</u>	4	<u>3</u>	4	5		3 1 9	2 Y

8799-274 HIGHWAY-MAINTENANCE WORKER (construction)

Maintains highways, municipal and rural roads in safe condition: Patrols assigned district to observe road condition and reports need for repairs. Erects and repairs guardrails, highway markers, and snow fences, using auger, hand and power tools. Places warning beacons at work or accident sites and clears away debris such as broken glass, fallen signs and branches. Dumps, spreads and tamps patching material onto road surface to repair broken or eroded pavement, using hand implements and road construction equipment if required. Mows grass and controls weeds on highway mid-sections and roadsides, using power or tractor drawn mower and spraying gun equipment. Cleans roadside rest areas and paints and repairs picnic tables and buildings. Drives truck to transport crew and equipment to worksite. Operates road equipment such as road sweeper, snow blower, or truck equipped with adjustable snow plow. Sands and salts icy roads.

GED: 2 SVP: 3 PA: H 3 4 7 8 EC: B 6 DPT: 6 8 3

APT.												INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C			
4	4	5	<u>3</u>	4	5	<u>4</u>	4	<u>3</u>	<u>3</u>	4		1 9 3	3 Y

8799-278 CONSTRUCTION HELPER (construction)

Helps skilled craft workers engaged in constructing or repairing buildings, roads, bridges, dams, sewer and water facilities, and other construction projects, performing any combination of the following routine duties:

Measures and marks grade lines to guide excavation workers. Aids construction equipment operators to align and move equipment, such as graders, power shovels and back hoes, by verifying grades and signalling operators to adjust machines for grade specifications. Levels earth to fine grade specifications, using rake and shovel. Drills holes in rock, handles explosives, and sets charges to blast rock. Erects shoring

to prevent cave-in of excavations. Erects forms to mould cement, and installs reinforcing rods. Pours, spreads and spades concrete to form mould. Sets up and removes scaffolding to form platform and lift supplies. Transports materials, tools and equipment to and from work site. Prepares surfaces and carries supplies to workers. Assists hoisting equipment operators by attaching lift line to object being lifted, and signalling to guide operator in moving object. Helps skilled workers erecting and repairing structures by performing tasks of lesser complexity, such as drilling and cutting holes, and cutting and threading pipes. Lifts and holds heavy parts in position for securing by worker aided. Operates power tools in helper capacity, such as pneumatic hammers, vibrators and tampers. Tends or feeds simple machines and equipment used in construction, such as mixers, compressors and pumps. Lubricates moving parts of machinery, such as hoists, with oil or grease. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 3 PA: V H 2 3 4 EC: B 5 6 7 DPT: 6 6 4

APT.												INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C			
4	4	4	4	4	5	<u>4</u>	4	<u>3</u>	3	5		1 3 9	2 3 Y

8799-290 AWNING-INSTALLER HELPER (construction)

Helps awning installation workers attach rigid or folding awnings to buildings:

Loads and unloads supplies onto and from motor vehicle. Sets up ladders or erects scaffolds to form work platform. Carries tools and equipment such as awning frames, awning material and ropes to worksite. Drills holes in walls and ceiling, as directed, in preparation for fittings. Bolts and screws brackets to building to hold frame. Helps lace canvas to frame with rope, or pull canvas over metal rod frame. Attaches awning hinges on window frame using screwdriver. Lifts and holds frame and awning in position during installation. Removes worn or damaged awnings for repair or replacement. Helps workers install related products such as carports, patio covers and aluminium doors and windows, as required. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 3 PA: H 2 3 4 EC: O 6 DPT: 6 8 7

APT.												INT.	TEMP.
G	V	N	S	P	Q	K	F	M	E	C			
4	4	5	4	4	5	<u>4</u>	4	<u>3</u>	<u>4</u>	5		3 1	2 3

8799-298 FURNACE-INSTALLER-AND-REPAIRER HELPER (construction)

Helps install and repair warm-air furnaces and related equipment:

Assembles tools and materials such as drills, wrenches, hoists and furnace parts required for installation. Erects forms, mixes and pours cement or lays other non-combustible material to form base. Cuts openings for ducts and pipes. Lifts and holds furnace parts in position for securing by installer, either manually or using hoist. Attaches other components, as directed, such as humidifiers, fans, filters and pipes, using hand tools. Measures and cuts insulating material for pipes, using shears and assists installer to wrap insulating material around hot air pipes using staples or tape. Cleans installation and work area. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 3 PA: H 3 4 EC: I DPT: 6 8 7

APT.													INT.			TEMP.					
G	V	N	S	P	Q	K	F	M	E	C											
4	4	4	4	4	5	<u>4</u>	4	<u>3</u>	4	5				1	3	9			2	3	Y

8799-399 MISCELLANEOUS CONSTRUCTION TRADES OCCUPATIONS

This residual group includes construction workers that cannot be classified elsewhere in Minor Group 879.

8799-302 OIL-BURNER INSTALLER-MAINTAINER HELPER (construction)

Helps install and maintain automatic oil burners in furnaces used to heat residential and commercial buildings:

Carries tools and equipment such as burners, pipes, pipefittings, hand-tools, portable power tools, cement and insulation from truck to work-site. Loosens bolts and screws to remove old burner unit when necessary, and load on truck. Drills holes in concrete floor, to fasten burner base. Cuts openings in walls and concrete floor to install fuel lines and tank, using hand and power tools. Cuts, bends and fastens fuel lines. Lifts and holds burner and other parts in position for installation. Fastens burner unit to floor and connects to furnace as directed using clips, bolts and hand tools. Loosens bolts of components for maintenance checks, and removes and replaces oil and air filters. Cleans burner, tools and work area. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 3 PA: M 3 4 EC: I 6 DPT: 6 8 7

APT.													INT.			TEMP.					
G	V	N	S	P	Q	K	F	M	E	C											
4	4	5	<u>4</u>	4	5	<u>4</u>	<u>4</u>	<u>3</u>	4	5				1	3	9			2	3	Y

8799-310 FLOOR-SANDER-AND-FINISHER HELPER (construction)

Helps floor finishers sand and finish wooden floors to impart smooth and finished appearance:

Assembles tools and materials required such as sanding machines, sandpaper, vacuum cleaner, extension cords, sealing compound, polisher and wax. Cleans area to be sanded by sweeping up dust and debris. Strings electric power lines from heavy duty power supply to provide energy for sanding machines. Operates rough sanding machine, as directed. Scrapes and sands floor perimeter and confined areas, using hand scraper and small power sanding machine. Sweeps and vacuums freshly-sanded area to clean floor for sealer. Trowels, mops or brushes fillers, sealants, waxes and polyurethane on floor. Operates polisher over waxed area to shine floor. See also definition for term title, 02-160 HELPER (any ind.).

GED: 2 SVP: 2 PA: M 3 4 EC: I 5 7 DPT: 6 8 4

APT.													INT.			TEMP.					
G	V	N	S	P	Q	K	F	M	E	C											
4	4	5	4	<u>4</u>	5	<u>4</u>	<u>4</u>	<u>3</u>	5	5				3	1				2	3	Y

8799-312 LIGHTNING-ROD ERECTOR (construction)

Installs lightning rods on buildings, towers, and other structures to diminish the destructive effect of lightning:

Bolts, screws, or nails metallic rod to highest exposed part of structure, such as chimney or tower. Clamps or solders ground cable to metallic rod on structure and to metal stake driven into ground. Clamps or solders ground cable to metal furnishings such as fire escapes, steel steps, steel stanchions and to ground rod.

GED: 2 SVP: 2 PA: L 2 3 4 EC: O 6 DPT: 6 8 4

APT.													INT.			TEMP.					
G	V	N	S	P	Q	K	F	M	E	C											
4	4	4	<u>4</u>	4	5	<u>3</u>	4	<u>4</u>	<u>2</u>	5				1	3				2	3	8

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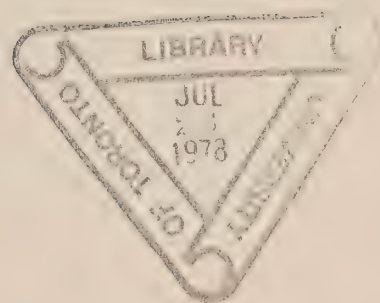
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